

# **EXHIBIT 7**

*Williams Wireless Technologies et al.*  
v.  
*Research in Motion, et al.*

**Plaintiffs' Amended Disclosures  
Pursuant to Local Rule 3-1**

**Infringing Instrumentalities of:**

**Nokia, Inc.**

## STATEMENT REGARDING ACCUSED

### NOKIA WIRELESS COMMUNICATIONS PRODUCTS

The accompanying claim chart explains the basis for infringement of claims 1, 2, 3, 4, 6 and 7 of U.S. Patent No. 4,809,297 (the '297 Patent) by Nokia's wireless communications products. Each of Nokia's products include a wireless chipset that enables the mobile device to communicate over a wireless network, including the two-way transmission of signals.

Nokia's chipsets are proprietary and the schematic details of each proprietary chipset is confidential to Nokia. However, over time certain details of Nokia's confidential chipset designs leak into the public domain, which information forms the basis of the following analysis. The following claim charts detail Plaintiff's infringement position concerning all products including the chipsets identified as "Nokia Chipset 1" and "Nokia Chipset 2." These bases apply to all of Nokia's presently identified products including the wireless mobile phones identified in the Complaint and hereinafter, which, for purposes of this action, are believed to be functionally equivalent from an infringement standpoint.

Williams Wireless Technologies and Polansky Electronics, Ltd. reserve the right to refine and improve the claim charts as discovery progresses and, in particular, after Nokia provides full information regarding its products pursuant to Local Rule 3-4. In addition, Williams Wireless Technologies and Polansky Electronics, Ltd reserve the right to supplement the claim charts once they are provided with discovery regarding each of the Nokia wireless communications devices named herein and have had an opportunity to obtain testimony on the accuses and suspected products from Nokia.

Unless otherwise stated herein, the specified element of each asserted claim is believed to be literally present in the accused instrumentality.

Pursuant to Local Rule 3-1, and for each claim asserted hereinafter, Williams Wireless Technologies and Polansky Electronics, Ltd. identify the following:

Williams Electronics Limited F.M.I.D. Facsimile Mobile Interface Data Device Model R100-5767.

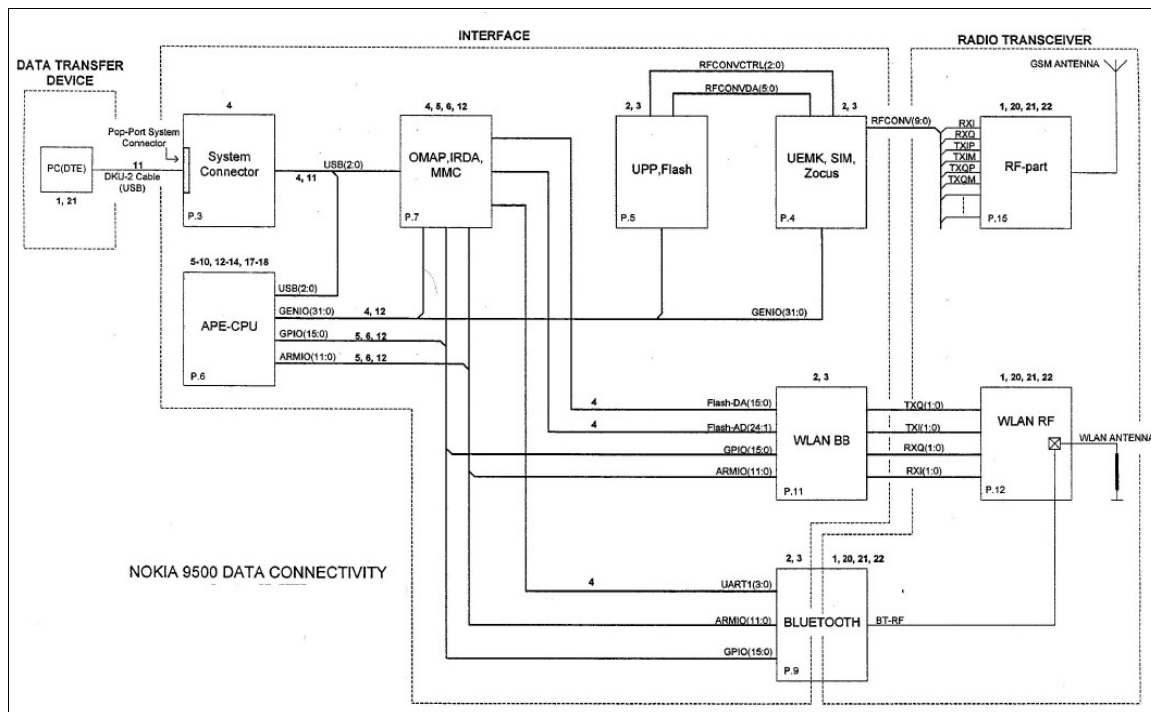
## Nokia Chipset 1

Certain of Nokia's wireless mobile devices, in particular at least the Nokia 9500 (pictured), have been manufactured and delivered incorporating the Nokia Chipset 1," which is a proprietary chipset based on licensed technology. The only publicly available information describing the particular functionality and inner details of this chipset are found in various confidential Service Manuals which have found their way into the public domain.

The simplified schematic diagram presented below was created by the Plaintiff for the purpose of evaluating certain of Nokia's products. This schematic abstracts the various detailed schematics publicly available, reproduced below as Appendix A. The components set forth in this schematic correspond to a component with a detailed schematic in Appendix A. The "Nokia Chipset 1" (represented below) includes circuitry and componentry that causes the device to interface a data transfer device with a radio transceiver, as claimed in U.S. Patent 4,809,297.



Plaintiff further alleges that other devices manufactured by Nokia and other Defendants that incorporate the identified chipset also infringe in the same manner as detailed below. For the purpose of this Claim Chart, an "accused instrumentality" is any device of the Defendant that incorporates the features and functionality embodied in this chipset.



## CLAIM CHART

1. An interface to connect a data transfer device with a radio transceiver

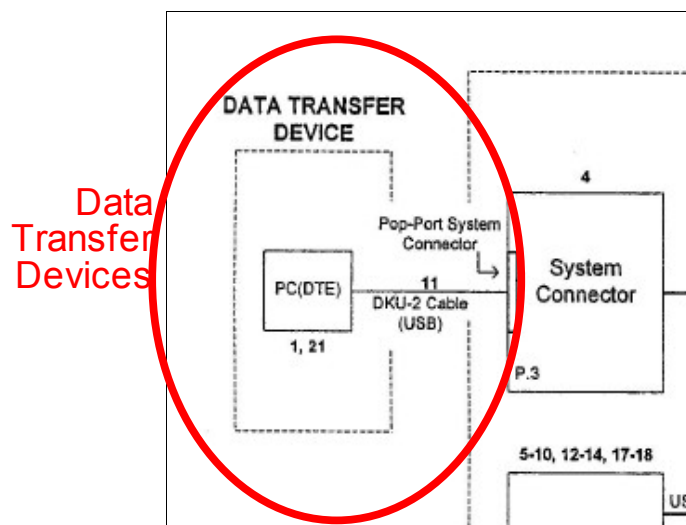
*comprising:*

The accused device includes the chipset identified above, which is an interface to connect a data transfer device with a radio transceiver.

The accused device includes several components, any one or more of which constitute a data transfer device. In one example, the accused device includes a keyboard (identified as "A") which is a data transfer device.

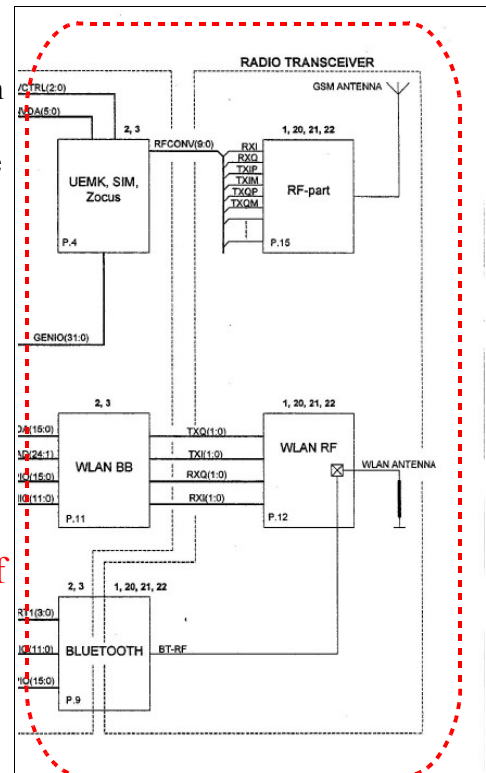


Other components coupled to the identified chipset may also constitute a "data transfer device", such as any one or more devices connected to the "System Connector" portion of the identified chipset below.



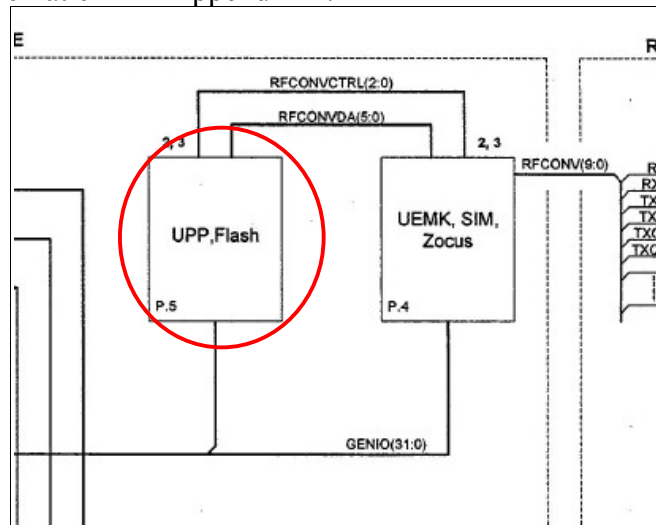
The accused device further includes a radio transceiver as identified in the representative chipset diagram reproduced to the right. The components constituting the radio transceiver include the RF-part, the WLAN RF, and the Bluetooth components.

### Transceiver Portion of Chipset 1



a **receiving circuit** to receive a data signal in a given form from said **transceiver**,

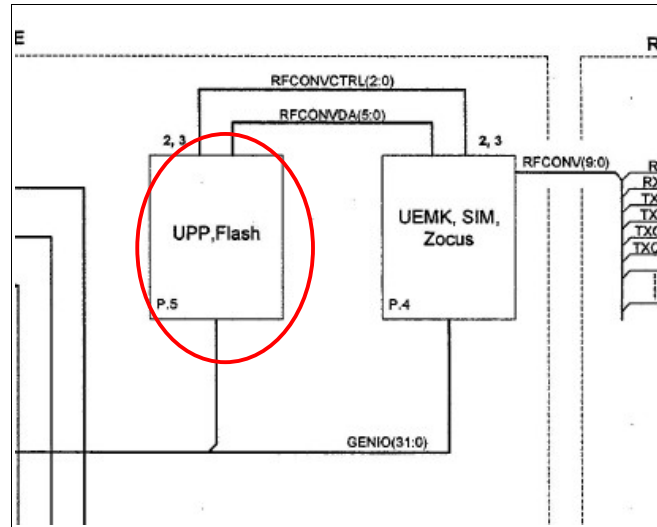
The identified chipset embedded in the accused instrumentality includes a receiving circuit embedded within the component identified as "UPP, Flash". The UPP (Universal Phone Processor) includes both a receiving circuit and a transmitting circuit, as is more evident with reference to the detailed schematic reproduced as "Schematic 4" in Appendix A.



The receiving circuit receives a data signal in a given form from the transceiver.

a **transmitting circuit** to transmit a data signal in said given form to said **transceiver**,

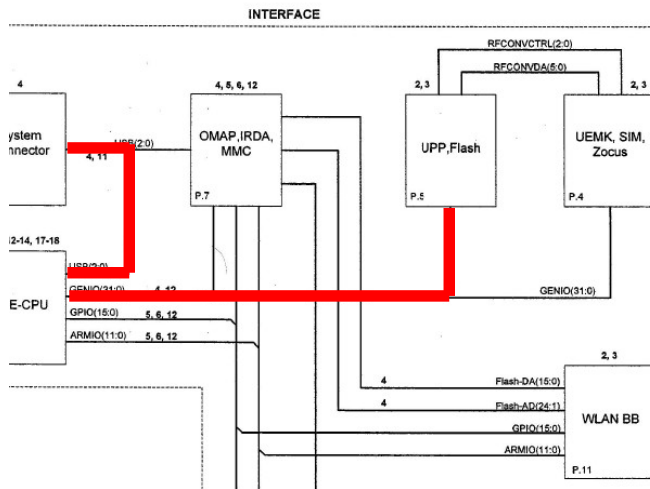
The identified chipset embedded in the accused instrumentality includes a transmitting circuit embedded within the component identified as "UPP, Flash". The UPP (Universal Phone Processor) includes both a receiving circuit and a transmitting circuit, as is more evident with reference to the detailed schematic reproduced as "Schematic 4" in Appendix A.

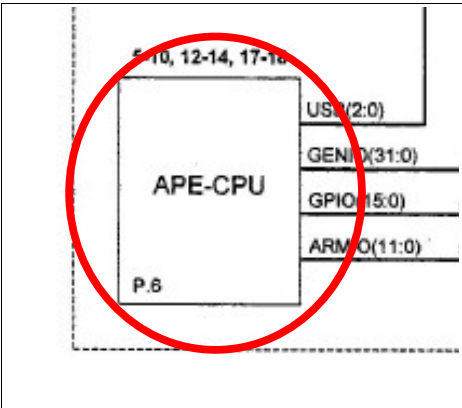
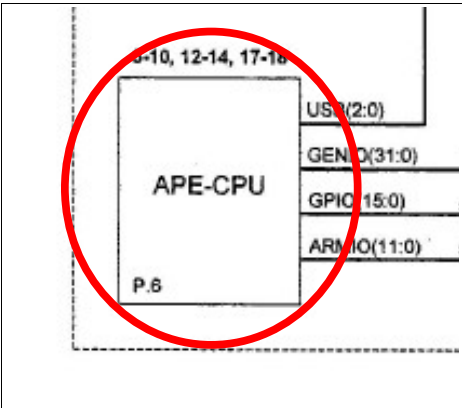


The transmitting circuit transmits a data signal in a given form to the transceiver.

a **data bus** to transfer one of said data signals between said device and the respective circuit,

The identified chipset component includes a data bus that operates to transfer data between the data transfer device and the receiving circuit, and to transfer data between the data transfer device and the transmitting circuit. The data bus is identified in the representative schematic as the "GENIO" bus and the "USB" bus.



	<p>The data bus is also partially contained within the integrated circuit forming the APE-CPU chip as a series of etched conductive paths or links between the functional blocks illustrated below in the chip set. The data bus also further includes or couples to any of the dual memory buses, the general-purpose interface bus, the address/data microprocessor bus and other internal buses.</p>
switch means to connect one of said circuits with said data bus	<p>The accused instrumentalities include switch means that connect one of the receiving or transmitting circuits with the data bus. The identified chipset includes transistors and other logic gates for alternately coupling components of the chipset one to another for the purpose of isolating, blocking, routing and or conditioning of the data signals to connect the data bus with either of the receiving or transmitting circuits. The transistors and other logic gates may be implemented within the microprocessor or DSP identified as the "APE-CPU" in the representative schematic.</p>  <p>The switch means comprises various logic gates and transistors that are in electrical cooperation with each of the various sub-components of the identified chip set that perform the function of the switch means. These various logic gates and transistors function to effectively connect the transmitting circuit or the receiving circuit to the data bus.</p>
and control means to control said switch means,	<p>The accused instrumentalities include electronic circuitry operable to control the switch means, to connect one of the transmitting or receiving circuits with the data bus.</p> <p>The control means is a microprocessor or digital</p> 



	<p>signal processor (DSP) in the accused instrumentality executing code that provides logic for determining whether to connect one of the transmitting or receiving circuits with the data bus. The microprocessor under control of the source code is a special purpose machine including various logic gates and transistors, such as AND gates, flip-flops and inverters, that perform the function of the control means. The control means is illustrated in the representative schematic as the APE-CPU.</p> <p>The processors control the switching means to effectively connect the transmitting circuit of the receiving circuit to the data bus, to control the operation of the bus connection according to the intended destination of the signal to of from the data transfer device, to follow the change in the operational mode, to disconnect the connection in the unwanted route, and to maintain the effective connection in the wanted route.</p>
said control means being responsive to a signal from said data transfer device,	In the accused instrumentalities, the control means responds to a signal from any one or more of the data transfer devices. The signal comprises a change of state in one or more data bits that signals a change in the operational mode of the data transfer device and/or data ready to be transmitted or otherwise handled by the control means on behalf of the data transfer devices.
which is indicative of a change in the operational mode thereof	In the accused instrumentalities, the signal from the data transfer device consists of one or more bi-stable digital bits having states of logic "1" and logic "0" indicative of a change in operational mode respectively. A change from logic "0" to logic "1" or vice versa indicates a change in the operational mode of the data transfer device.
to disconnect said one circuit and connect the other of said circuits to said data bus.	<p>In the accused instrumentalities, a change in logic state of the signal received from the data transfer device, results in the control means and switch means operatively terminating effective communication between one of the transmitting or receiving circuits over the data bus.</p> <p>Illustrated in Schematic 4 in Appendix A, the control means and the switch means operatively alternate modes of operation between transmission mode and receive mode, which causes the data transmission paths to alternate between the receiving circuitry and the transmitting circuitry.</p>

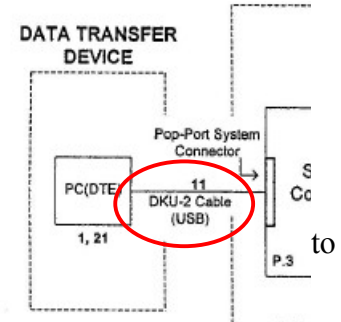
2. An interface according to claim 1

wherein said signals are transferred between said data transfer device and said transceiver in serial form.

The accused instrumentalities include each of the elements specified by Claim 1.

In addition, the data transfer devices included in the chip sets used in each accused instrumentality use a serial bus to transfer data with the transceiver. Accordingly, data are transferred between the data transfer device and the transceiver in serial form in the accused instrumentalities.

Where the data transfer device is implemented as a component attached the Universal Serial Bus (USB), the data signals are necessarily being transferred serially, which is an inherent feature of the Universal Serial Bus, illustrated at the right.

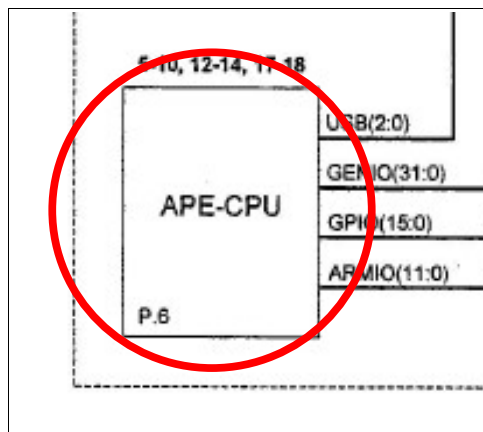


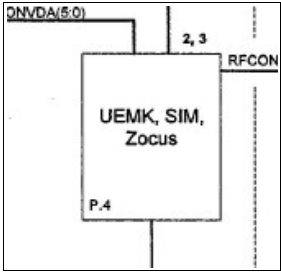
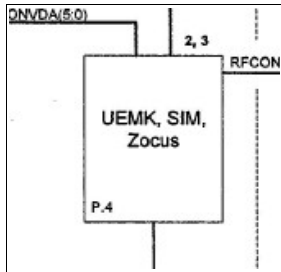
3. An interface according to claim 2

wherein said control means operates upon said transceiver to condition said transceiver to a transmit mode upon connection of said databus with said transmitting circuit.

The accused instrumentalities include each of the elements specified by Claim 2.

In addition, the control means in the form of a microprocessor or digital signal processor, such as the APE-CPU processor illustrated below, executing code functions to direct the transceiver to transmit when the control means and switch means operate to enable communication of data from the transmitting circuit to the transceiver over the data bus.



<p>4. An interface according to claim 2</p> <p>wherein said control means is responsive to a change from an inactive to an active condition to connect said data bus to said transmitting circuit.</p>	<p>The accused instrumentalities include each of the elements specified by Claim 2.</p> <p>In addition, the control means in the form of a microprocessor executing code functions to enable data transfer from the data bus to the transmitting circuit when the user desires to communicate information. Such activation is indicated by a change in logic state in one or more logic bits within the microprocessor executing the code.</p>
<p>6. An interface according to claim 4</p> <p>including amplifying means in said receiving circuit.</p>	<p>The Nokia accused instrumentalities include each of the elements specified by Claim 4.</p> <p>The baseband circuits in the UEMK, the WLAN BB, and Bluetooth handle analog signals, therefore they must include integrated amplifiers. The amplifiers are designed for low-supply-voltage operations, and employ "push-pull" circuits at their output stages to achieve maximum available voltage swings and low signal distortions.</p> 
<p>7. An interface according to claim 6</p> <p>wherein a buffer amplifier is included in said transmitting circuit to isolate said switch means and said transceiver.</p>	<p>The Nokia accused instrumentalities include each of the elements specified by Claim 6.</p> <p>The baseband circuits in the UEMK, the WLAN BB, and Bluetooth handle analog signals, therefore they must include integrated amplifiers, which operate as buffer amplifiers to adjust the transmitters' modulation levels. The amplifiers are designed for low-supply-voltage operations, and employ "push-pull" circuits at their output stages to achieve maximum available voltage swings and low signal distortions.</p> 

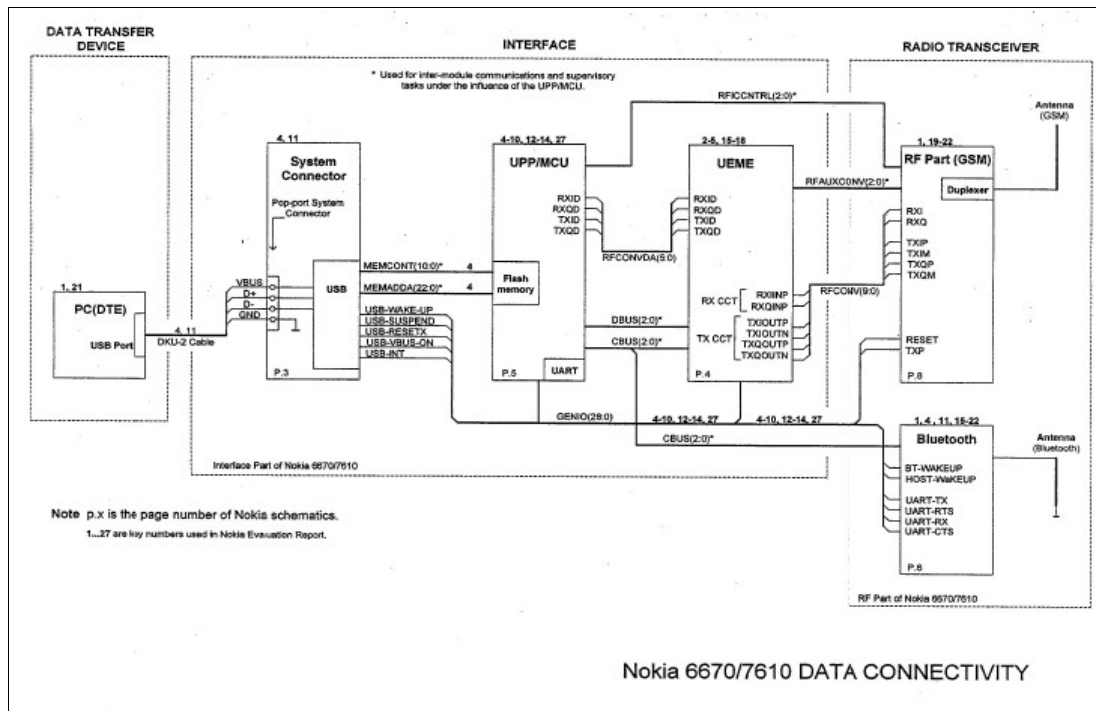
## Nokia Chipset 2

Certain of Nokia's wireless mobile devices, in particular at least the Nokia 7610 (pictured), have been manufactured and delivered incorporating the Nokia Chipset 2," which is a proprietary chipset based on licensed technology. The only publicly available information describing the particular functionality and inner details of this chipset are found in various confidential Service Manuals which have found their way into the public domain.

The simplified schematic diagram presented below was created by the Plaintiff for the purpose of evaluating certain of Nokia's products. This schematic abstracts the various detailed schematics publicly available, reproduced below as Appendix B. The components set forth in this schematic correspond to a component with a detailed schematic in Appendix B. The "Nokia Chipset 2" (represented below) includes circuitry and componentry that causes the device to interface a data transfer device with a radio transceiver, as claimed in U.S. Patent 4,809,297.



Plaintiff further alleges that other devices manufactured by Nokia and other Defendants that incorporate the identified chipset also infringe in the same manner as detailed below. For the purpose of this Claim Chart, an "accused instrumentality" is any device of the Defendant that incorporates the features and functionality embodied in this chipset.



## CLAIM CHART

1. An interface to connect a data transfer device with a radio transceiver

*comprising:*

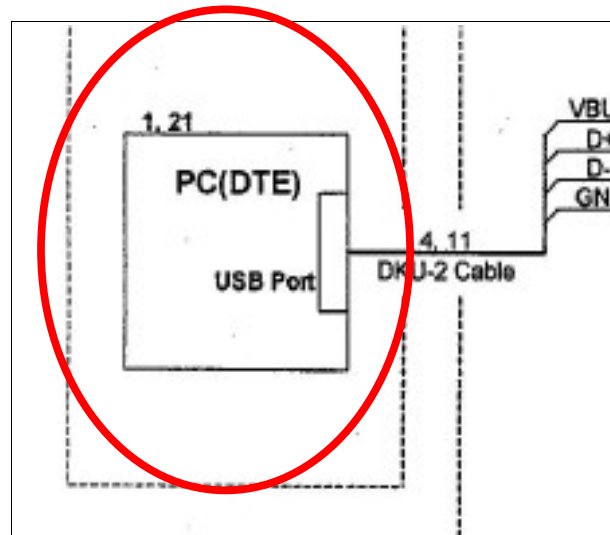
The accused device includes the chipset identified above, which is an interface to connect a data transfer device with a radio transceiver.

The accused device includes several components, any one or more of which constitute a data transfer device. In one example, the accused device includes a keyboard (identified as "A") which is a data transfer device.

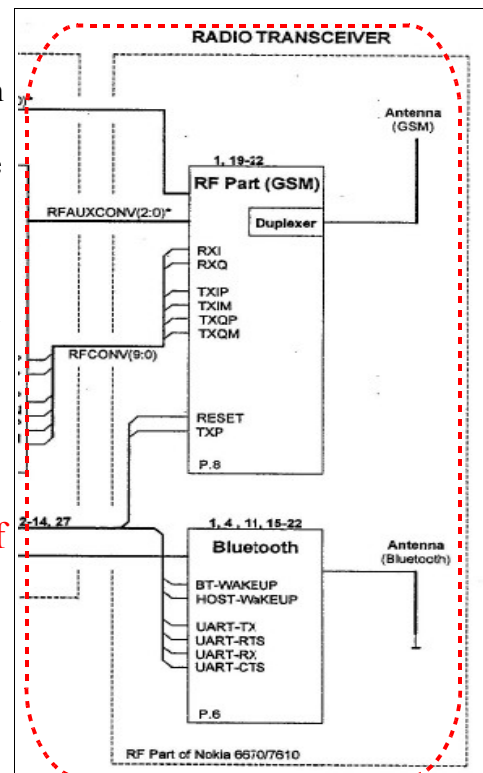


Other components coupled to the identified chipset may also constitute a "data transfer device", such as any one or more devices connected to the "System Connector" portion of the identified chipset below.

Data  
Transfer  
Device



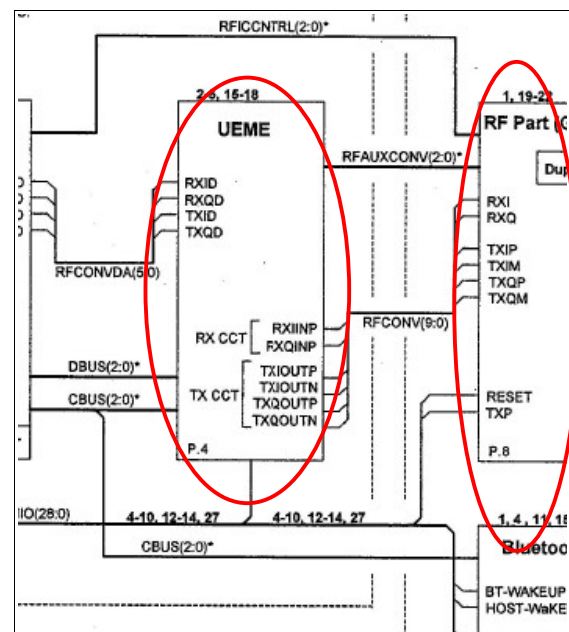
The accused device further includes a radio transceiver as identified in the representative chipset diagram reproduced to the right. The components constituting the radio transceiver include the RF-part and the Bluetooth components.



## Transceiver Portion of Chipset 2

a **receiving circuit** to receive a data signal in a given form from said **transceiver**,

The identified chipset embedded in the accused instrumentality includes a receiving circuit embedded within the component identified as "UEME". The UEME includes both a receiving circuit and a transmitting circuit, as is more evident with reference to the detailed schematic reproduced as "Schematic 3" in Appendix B.



The receiving circuit receives a data signal in a given form from the transceiver.

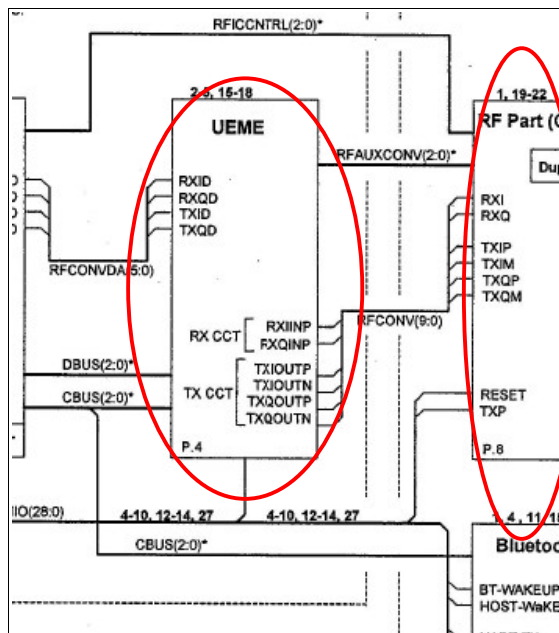


a **transmitting circuit** to transmit a data signal in said given form to said **transceiver**,

The identified chipset embedded in the accused instrumentality includes a transmitting circuit embedded within the component identified as

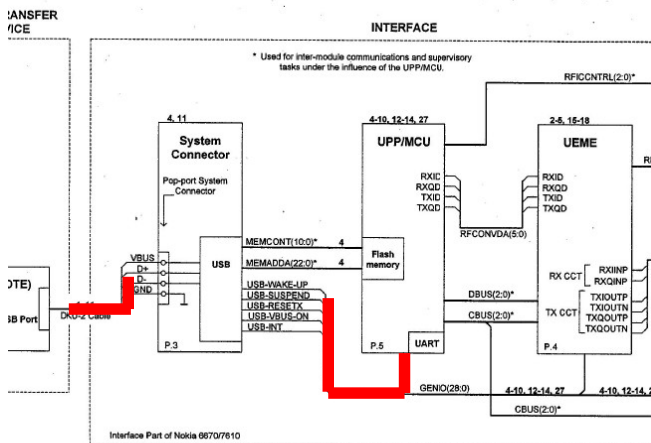
"UEME". The UEME includes both a receiving circuit and a transmitting circuit, as is more evident with reference to the detailed schematic reproduced as "Schematic 3" in Appendix B.

The transmitting circuit transmits a data signal in a given form to the transceiver.



a **data bus** to transfer one of said data signals between said device and the respective circuit,

The identified chipset component includes a data bus that operates to transfer data between the data transfer device and the receiving circuit, and to transfer data between the data transfer device and the transmitting circuit. The data bus is identified in the representative schematic as the "GENIO" bus and the "USB" bus.



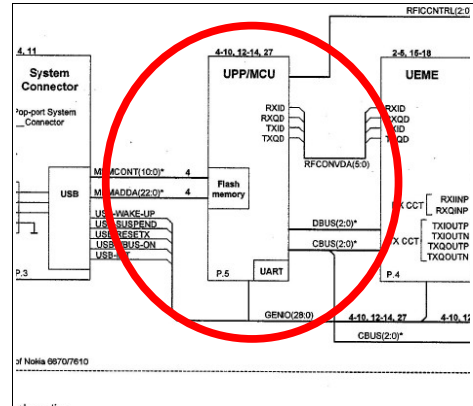
4 is the page number of Nokia schematics.  
99 are the reference numbers in Nokia Block set diagram.

The data bus is also partially contained within the integrated circuit forming the UPP-MCU chip as a series of etched conductive paths or links between the functional blocks illustrated below in the chip set. The data bus also further includes or

couples to any of the dual memory buses, the general-purpose interface bus, the address/data microprocessor bus and other internal buses.

**switch means** to connect one of said circuits with said data bus

The accused instrumentality includes a switch means that connects one of the receiving or transmitting circuits with the data bus. The identified chipset includes transistors and other logic gates for alternately coupling components of the chipset one to another for the purpose of isolating, blocking, routing and or conditioning of the data signals to connect the data bus with either of the receiving or transmitting circuits. The transistors and other logic gates may be implemented within the microprocessor or DSP identified as the "UPP-MCU" in the representative schematic.

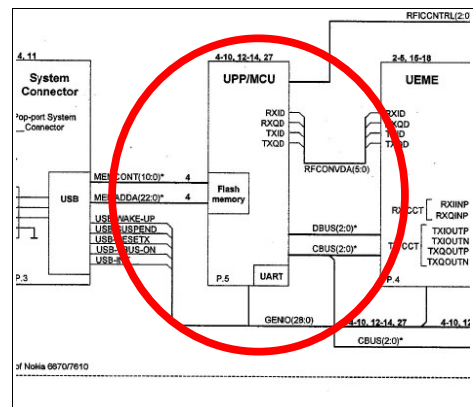


The switch means comprises various logic gates and transistors that are in electrical cooperation with each of the various sub-components of the identified chip set that perform the function of the switch means. These various logic gates and transistors function to effectively connect the transmitting circuit or the receiving circuit to the data bus.

and control means to control said switch means,

The accused instrumentalities include electronic circuitry operable to control the switch means, to connect one of the transmitting or receiving circuits with the data bus.

The control means is a microprocessor or digital signal processor (DSP) in the accused instrumentality executing code that provides logic for determining whether to connect one of the transmitting or receiving circuits with the data bus. The microprocessor under control of the source code





	<p>is a special purpose machine including various logic gates and transistors, such as AND gates, flip-flops and inverters, that perform the function of the control means. The control means is illustrated in the representative schematic as the UPP-MCU.</p> <p>The processors control the switching means to effectively connect the transmitting circuit of the receiving circuit to the data bus, to control the operation of the bus connection according to the intended destination of the signal to or from the data transfer device, to follow the change in the operational mode, to disconnect the connection in the unwanted route, and to maintain the effective connection in the wanted route.</p>
said control means being responsive to a signal from said data transfer device,	In the accused instrumentalities, the control means responds to a signal from any one or more of the data transfer devices. The signal comprises a change of state in one or more data bits that signals a change in the operational mode of the data transfer device and/or data ready to be transmitted or otherwise handled by the control means on behalf of the data transfer devices.
which is indicative of a change in the operational mode thereof	In the accused instrumentalities, the signal from the data transfer device consists of one or more bi-stable digital bits having states of logic "1" and logic "0" indicative of a change in operational mode respectively. A change from logic "0" to logic "1" or vice versa indicates a change in the operational mode of the data transfer device.
to disconnect said one circuit and connect the other of said circuits to said data bus.	<p>In the accused instrumentalities, a change in logic state of the signal received from the data transfer device, results in the control means and switch means operatively terminating effective communication between one of the transmitting or receiving circuits over the data bus.</p> <p>Illustrated in Schematic 3 in Appendix B, the control means and the switch means operatively alternate modes of operation between transmission mode and receive mode, which causes the data transmission paths to alternate between the receiving circuitry and the transmitting circuitry.</p>

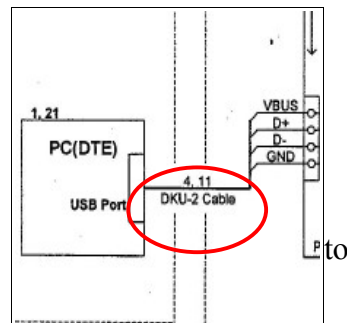
2. An interface according to claim 1

wherein said signals are transferred between said data transfer device and said transceiver in serial form.

The accused instrumentalities include each of the elements specified by Claim 1.

In addition, the data transfer devices included in the chip sets used in each accused instrumentality use a serial bus to transfer data with the transceiver. Accordingly, data are transferred between the data transfer device and the transceiver in serial form in the accused instrumentalities.

Where the data transfer device is implemented as a component attached the Universal Serial Bus (USB), the data signals are necessarily being transferred serially, which is an inherent feature of the Universal Serial Bus, illustrated at the right.

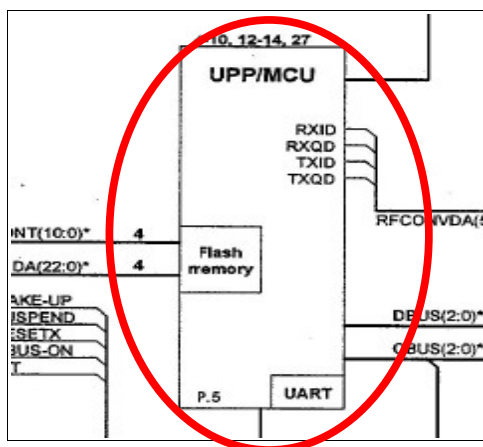


3. An interface according to claim 2

wherein said control means operates upon said transceiver to condition said transceiver to a transmit mode upon connection of said databus with said transmitting circuit.

The accused instrumentalities include each of the elements specified by Claim 2.

In addition, the control means in the form of a microprocessor or digital signal processor, such as the UPP-MCU processor illustrated below, executing code functions to direct the transceiver to transmit when the control means and switch means operate to enable communication of data from the transmitting circuit to the transceiver over the data bus.



4. An interface according to claim 2

wherein said control means is responsive to a change from an inactive to an active condition to connect said data bus to said transmitting circuit.

The accused instrumentalities include each of the elements specified by Claim 2.

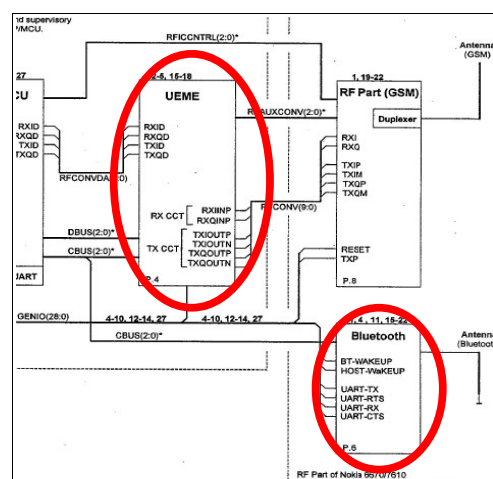
In addition, the control means in the form of a microprocessor executing code functions to enable data transfer from the data bus to the transmitting circuit when the user desires to communicate information. Such activation is indicated by a change in logic state in one or more logic bits within the microprocessor executing the code.

6. An interface according to claim 4

including amplifying means in said receiving circuit.

The Nokia accused instrumentalities include each of the elements specified by Claim 4.

The baseband circuits in the UEME and the Bluetooth modules handle analog signals, therefore they must include integrated amplifiers. The amplifiers are designed for low-supply-voltage operations, and employ "push-pull" circuits at their output stages to achieve maximum available voltage swings and low signal distortions.

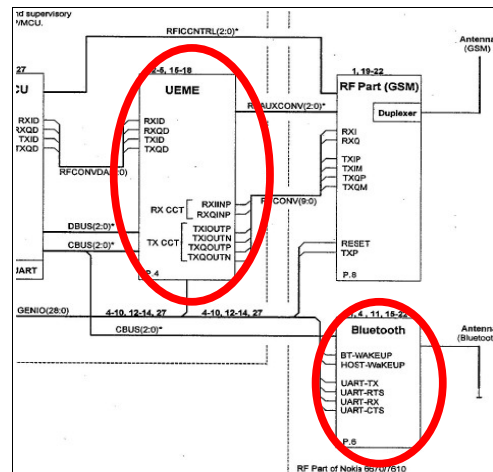


7. An interface according to claim 6

wherein a buffer amplifier is included in said transmitting circuit to isolate said switch means and said transceiver.

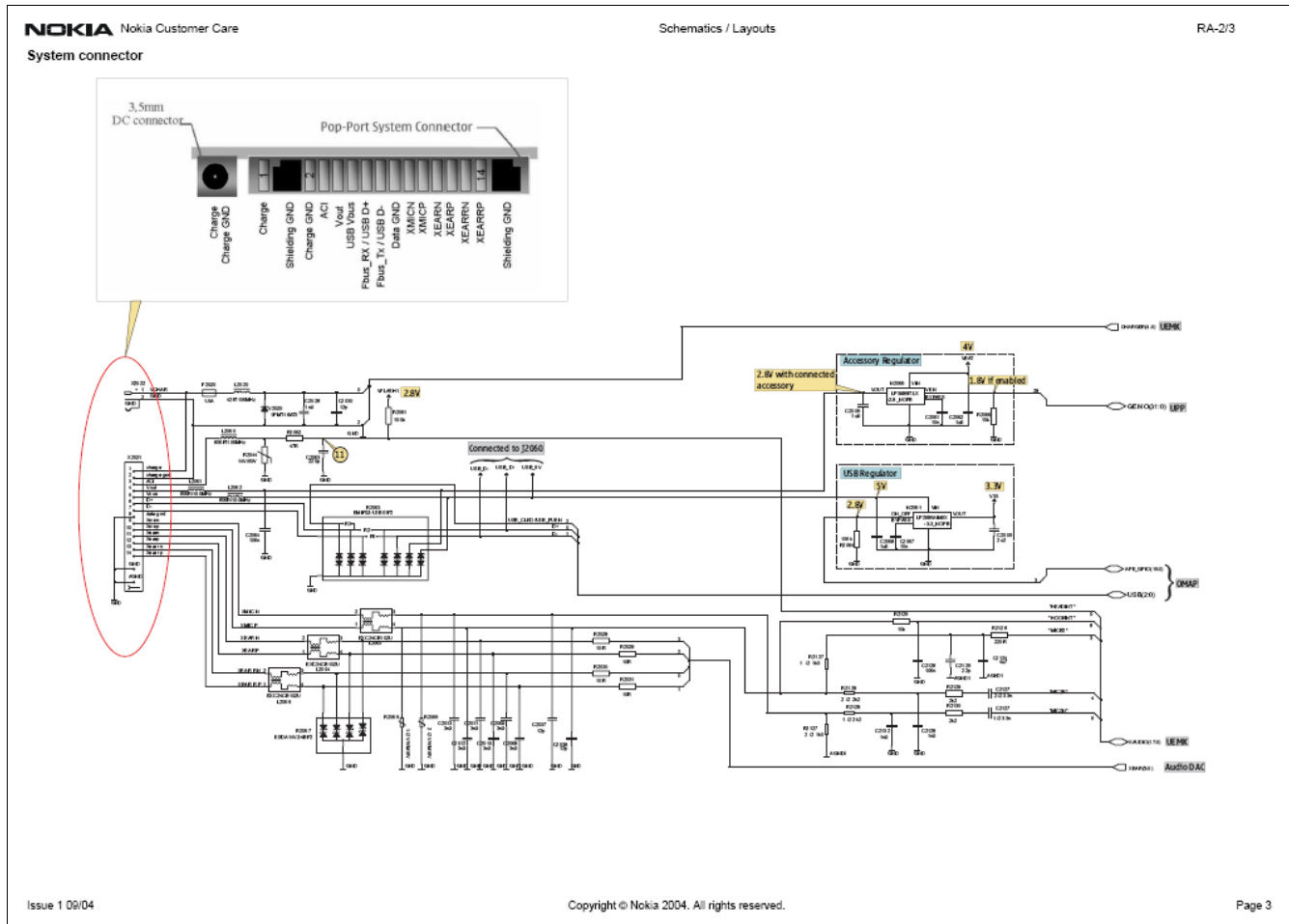
The Nokia accused instrumentalities include each of the elements specified by Claim 6.

The baseband circuits in the UEMK and the Bluetooth modules handle analog signals, therefore they must include integrated amplifiers, which operate as buffer amplifiers to adjust the transmitters' modulation levels. The amplifiers are designed for low-supply-voltage operations, and employ "push-pull" circuits at their output stages to achieve maximum available voltage swings and low signal distortions.



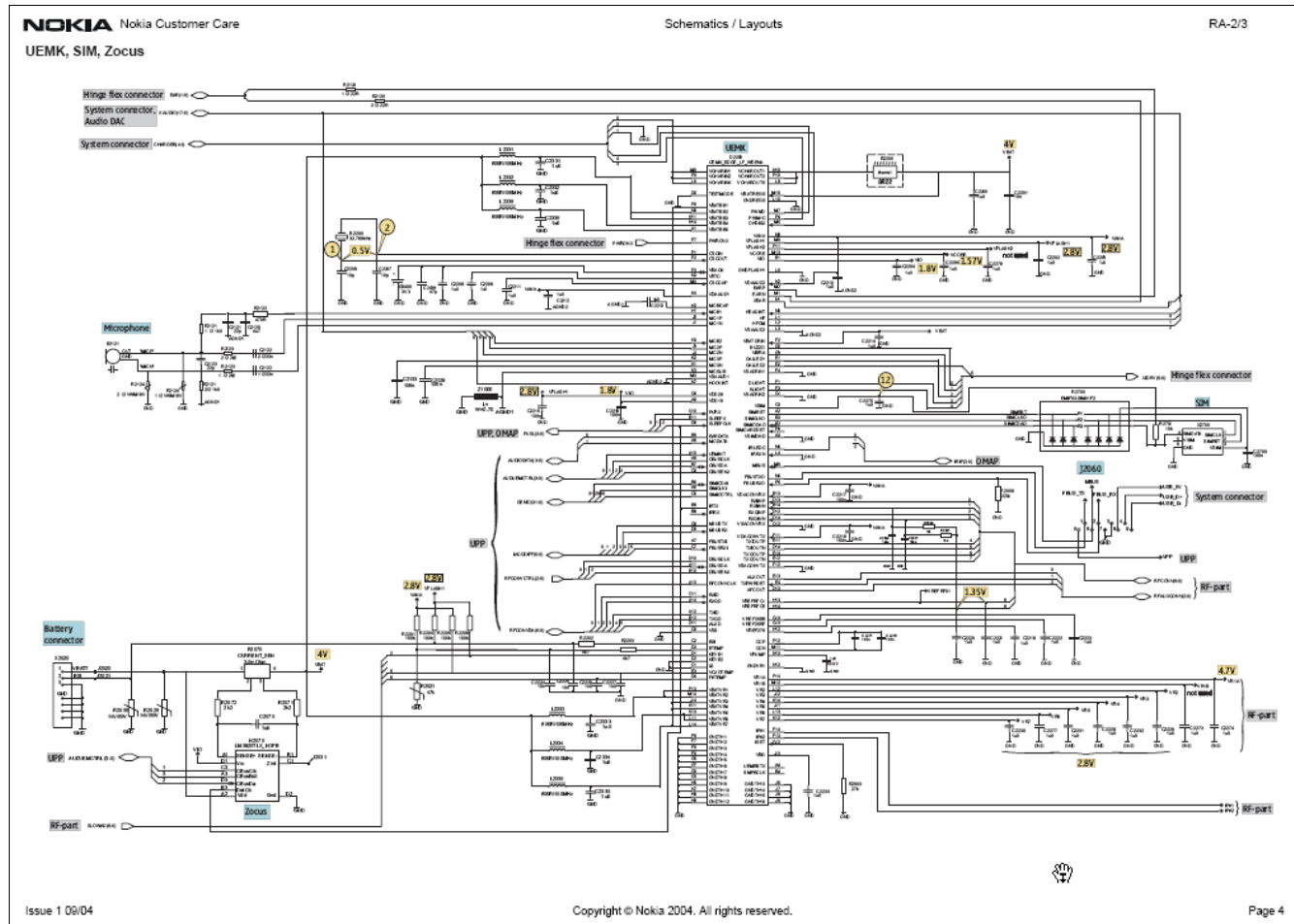
## DCT-4 Common Baseband

### Schematic 2



## System Connector

## Schematic 3



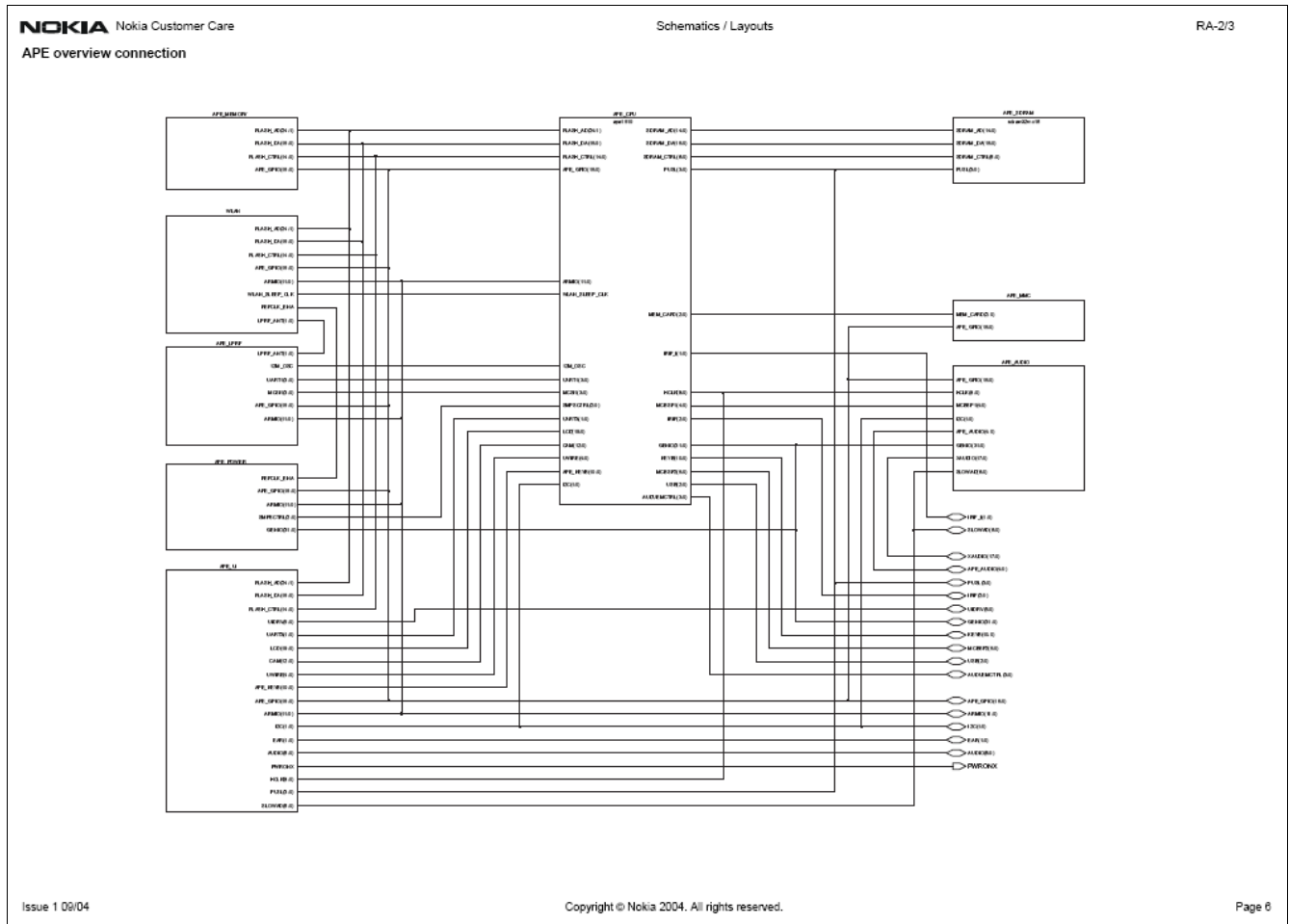
UEMK, SIM, Zocus

UPP, Flash



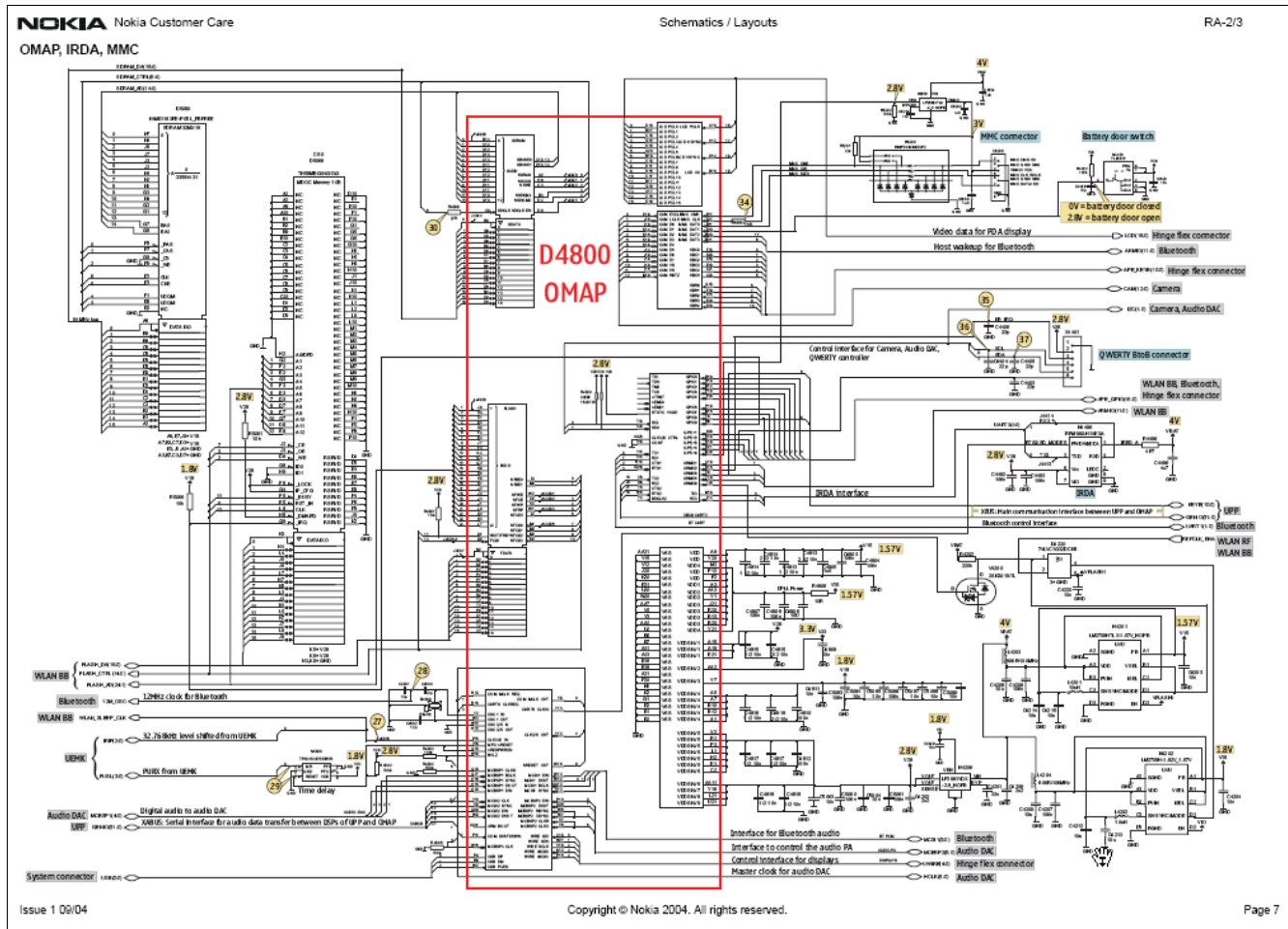


## Schematic 5



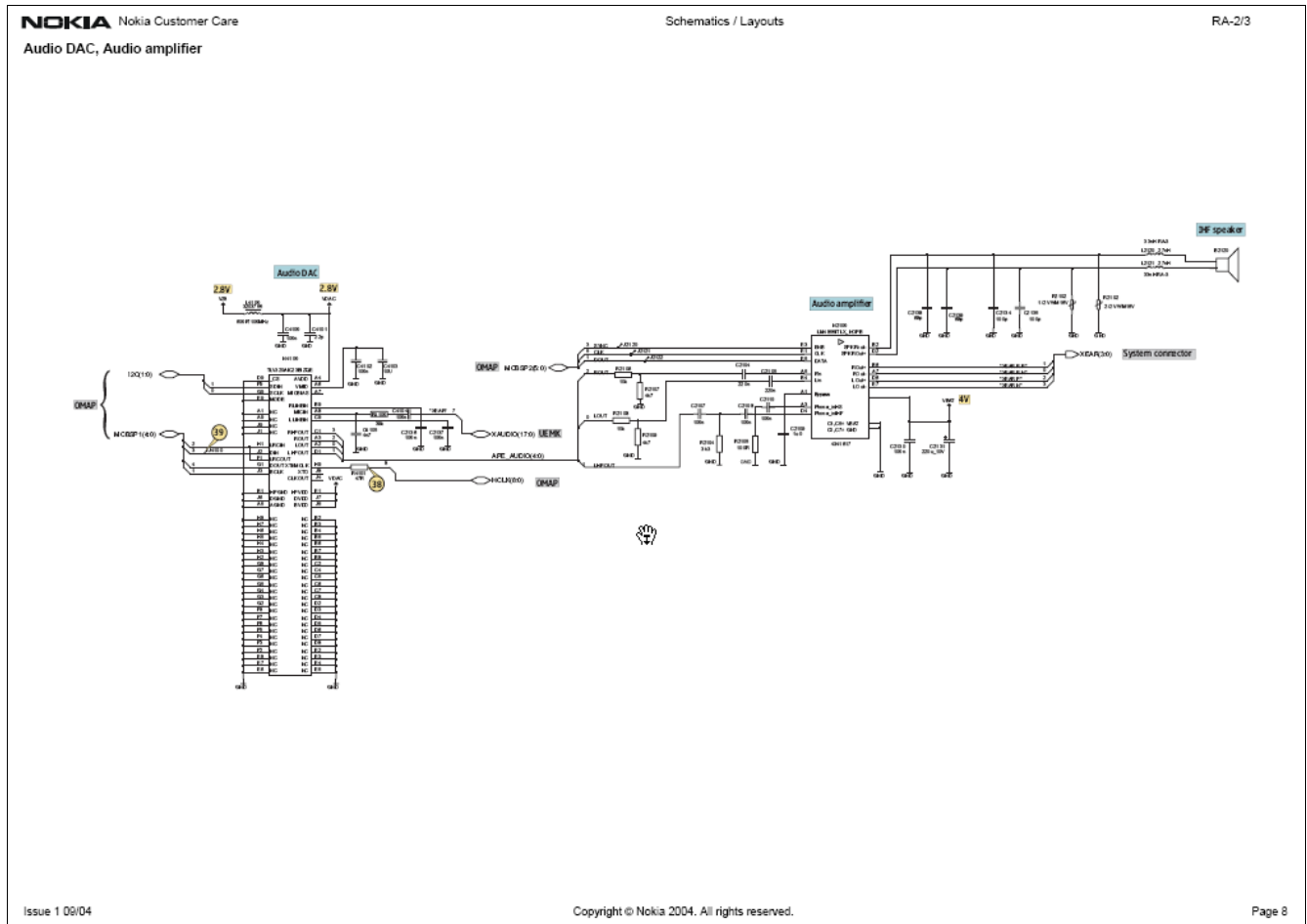
## APE Overview Connection

Schematic 6



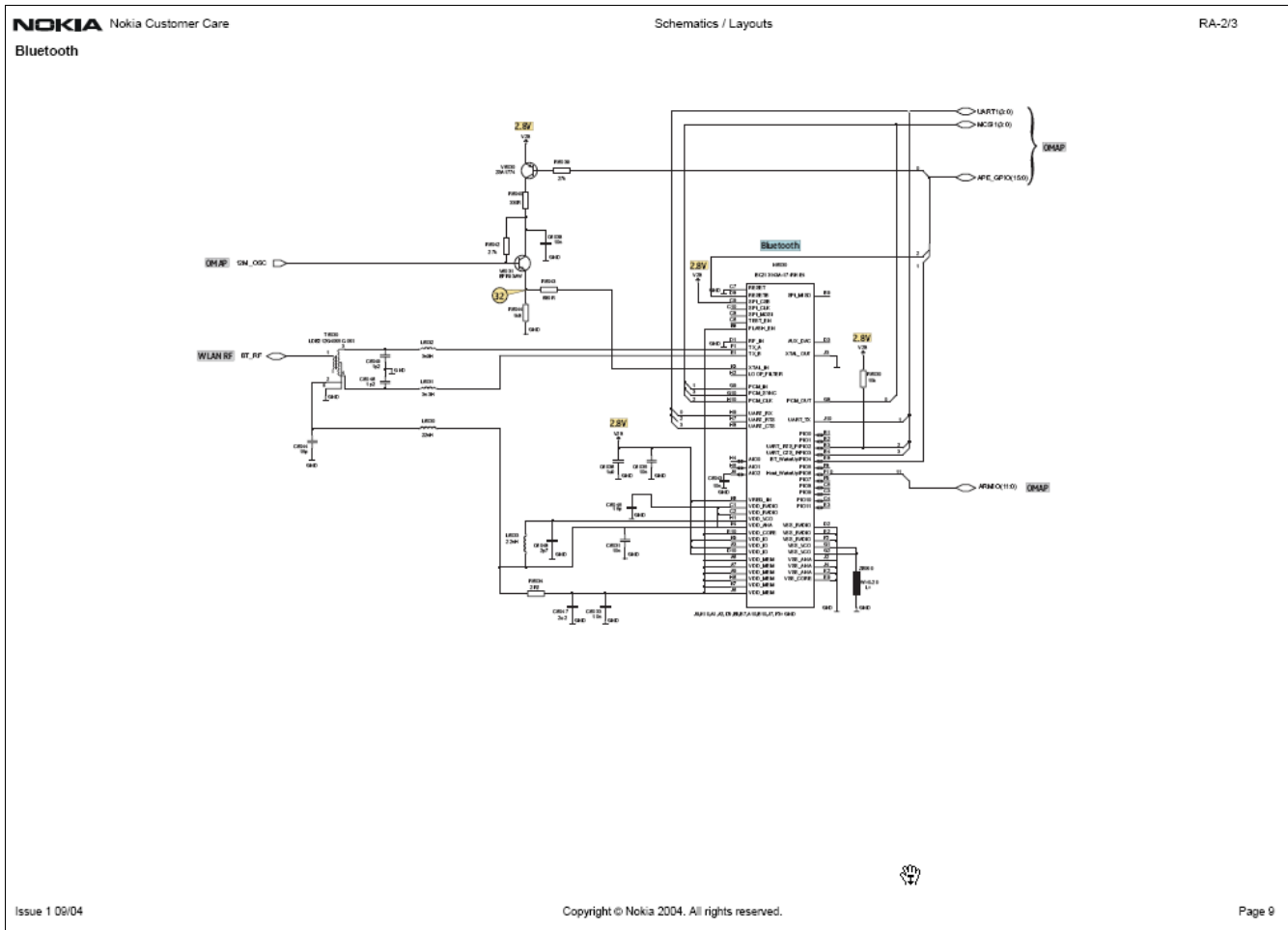
OMAP, IRDA, MMC

# Schematic 7



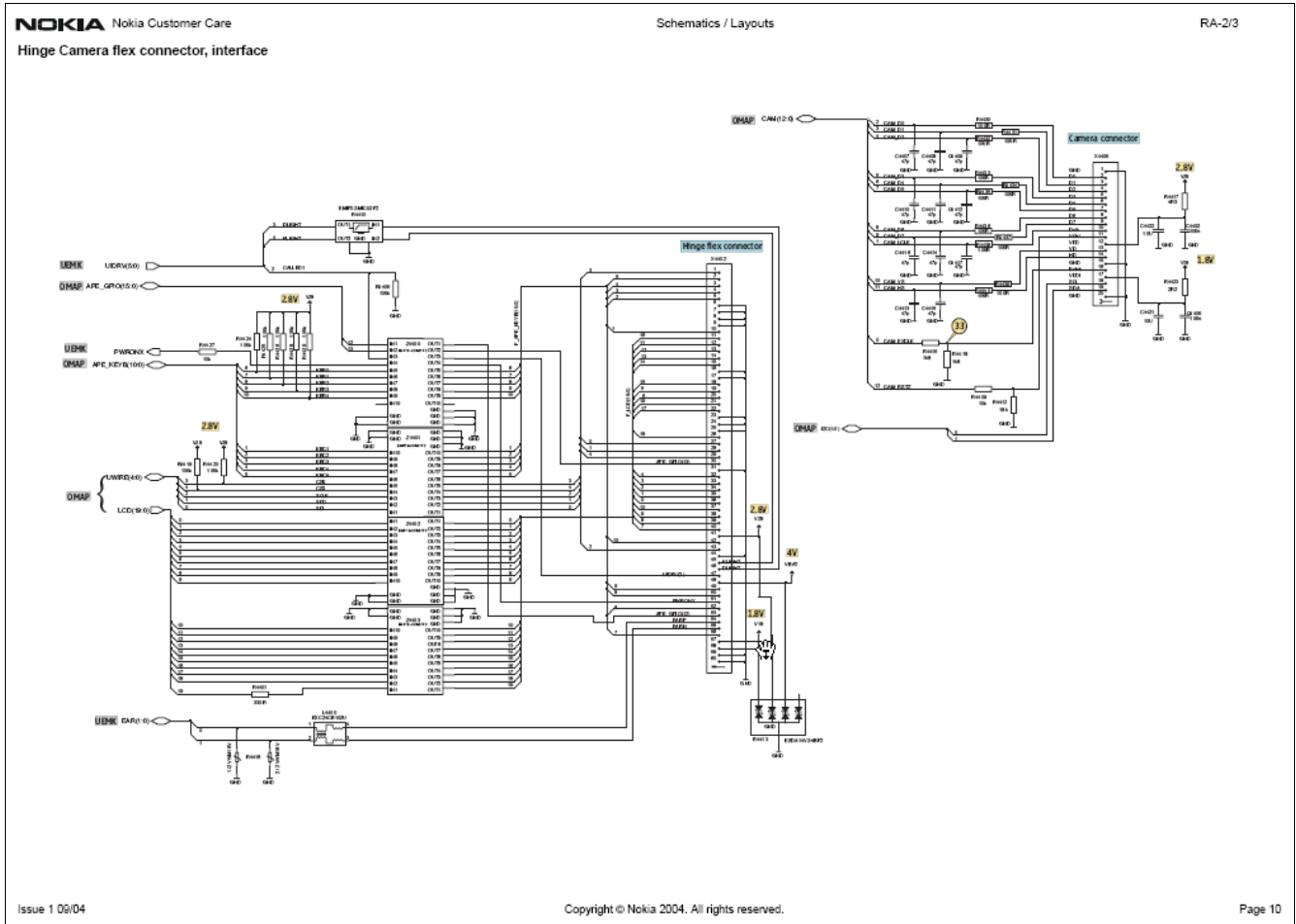
## Audio DAC, Audio Amplifier

### Schematic 8



## Bluetooth

### Schematic 9



Hinge Camera flex connector, interface

WLAN Baseband



WLAN RF

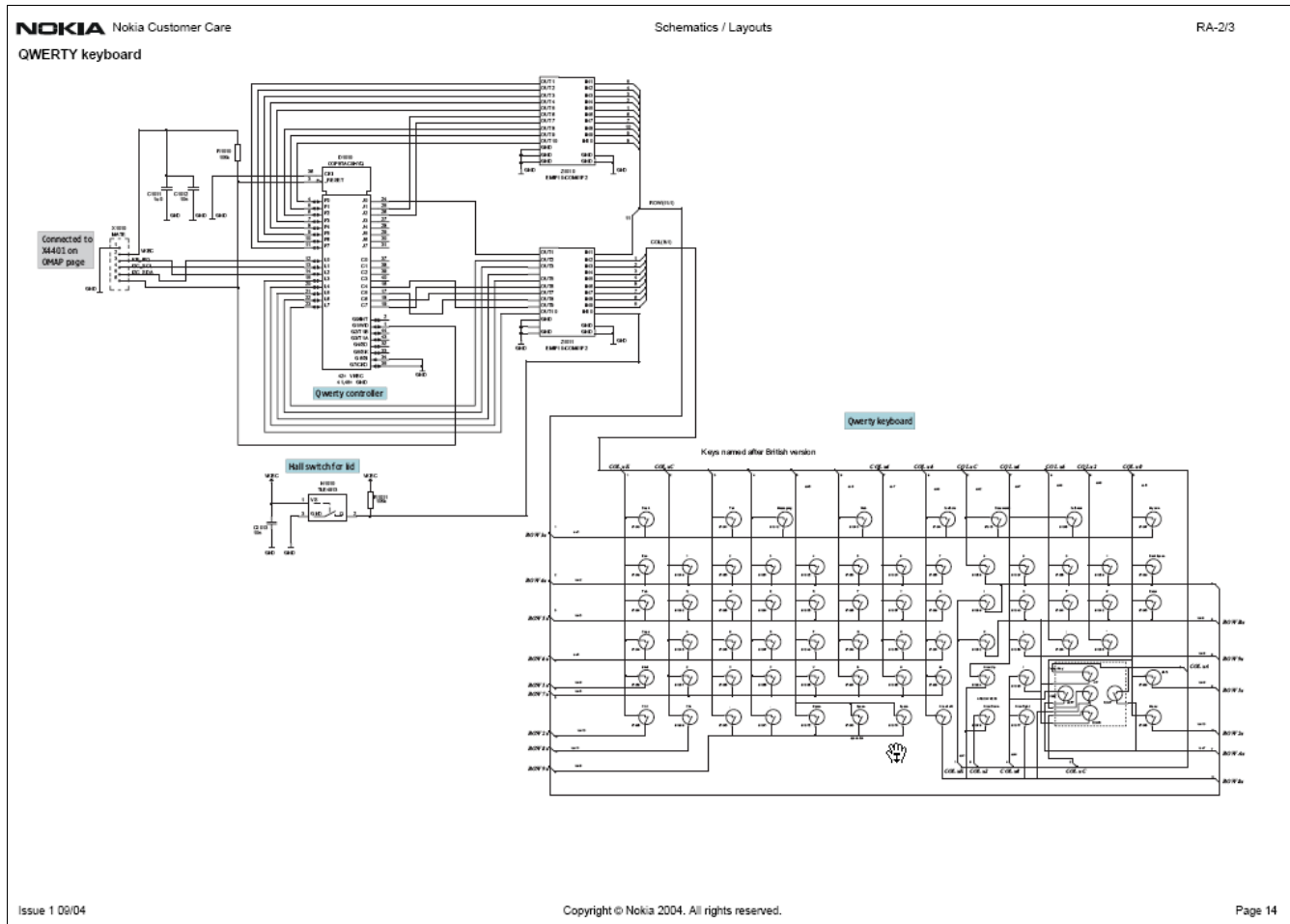


Flex Foil



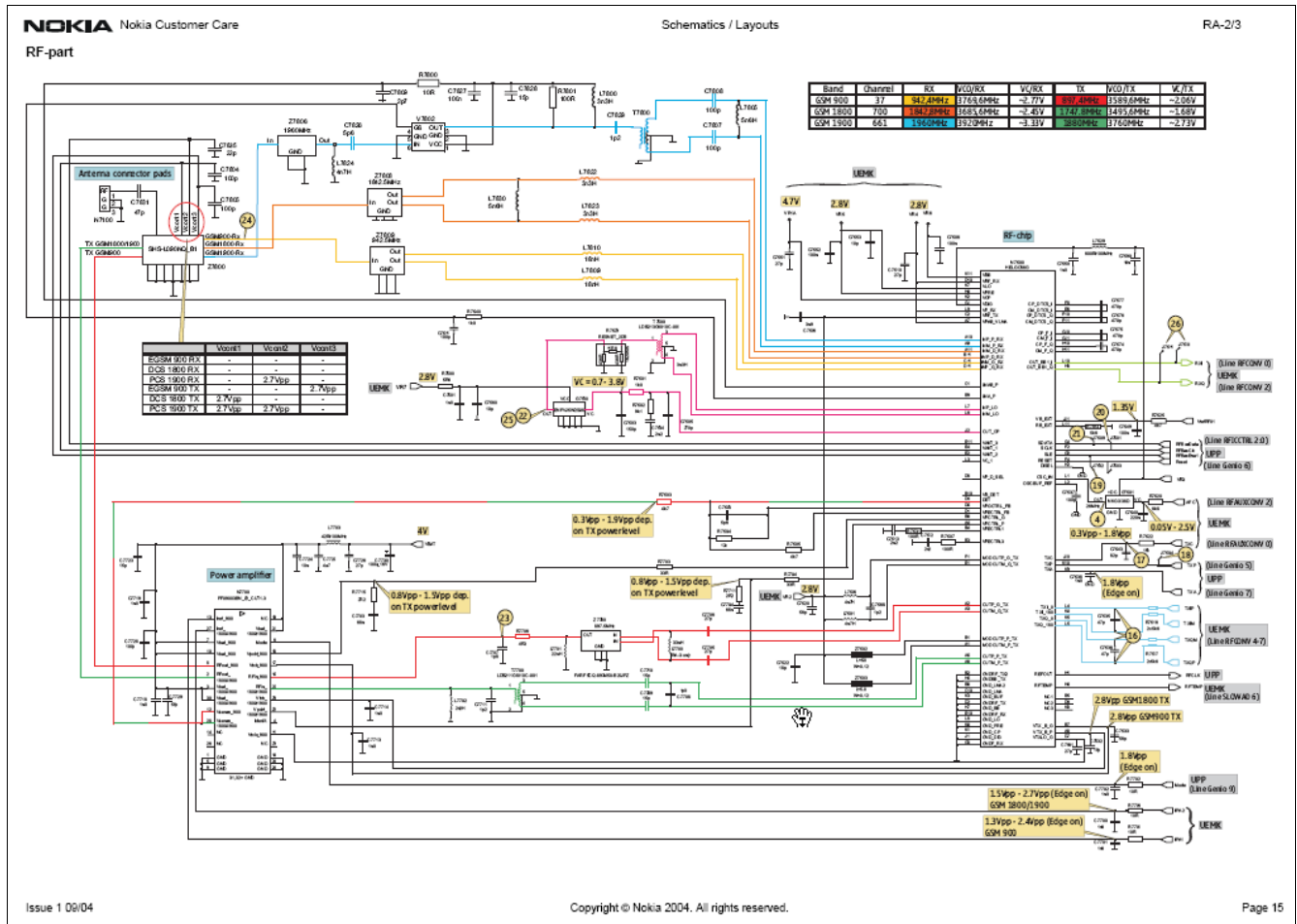


## Schematic 13



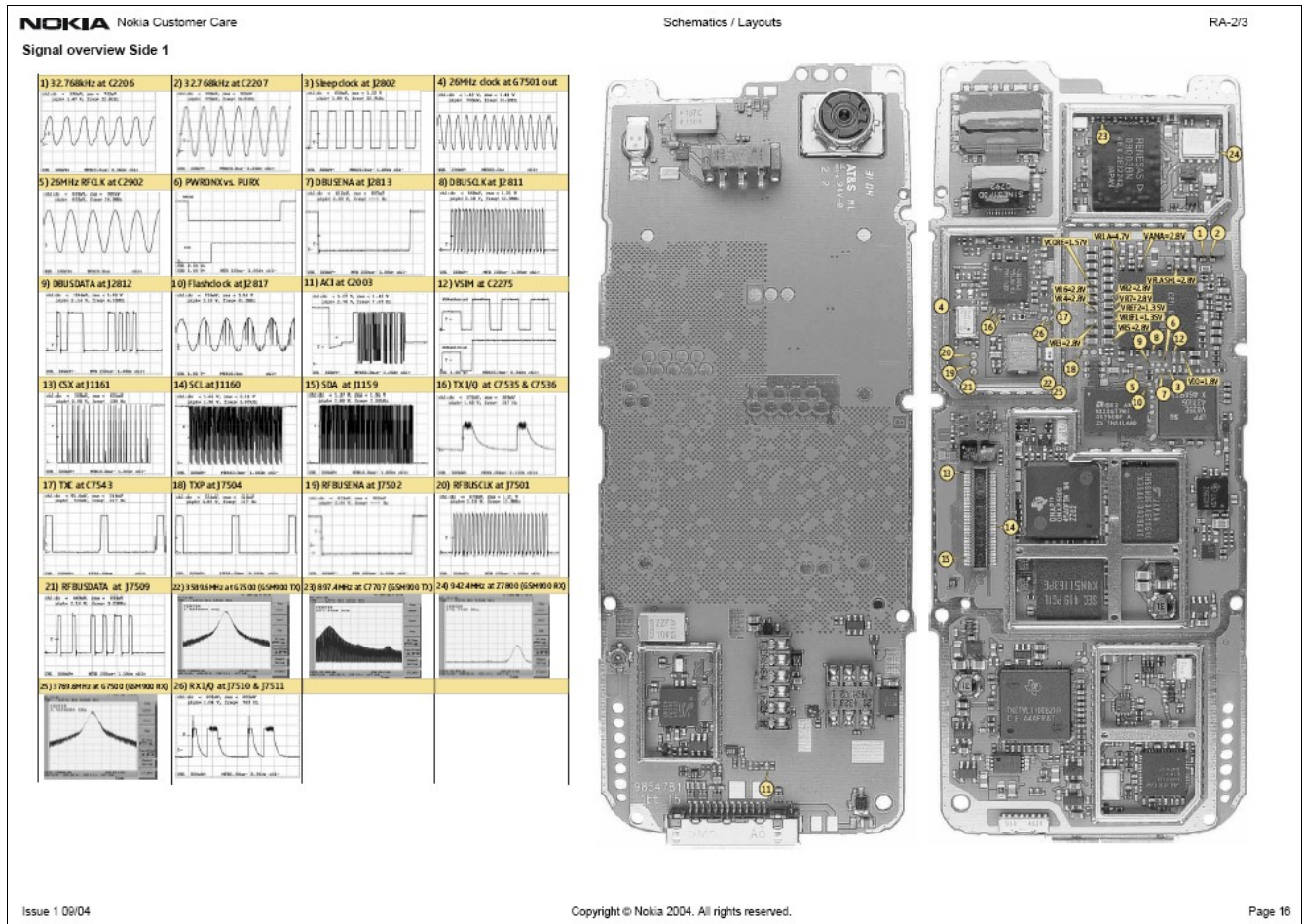
QWERTY keyboard

Schematic 14



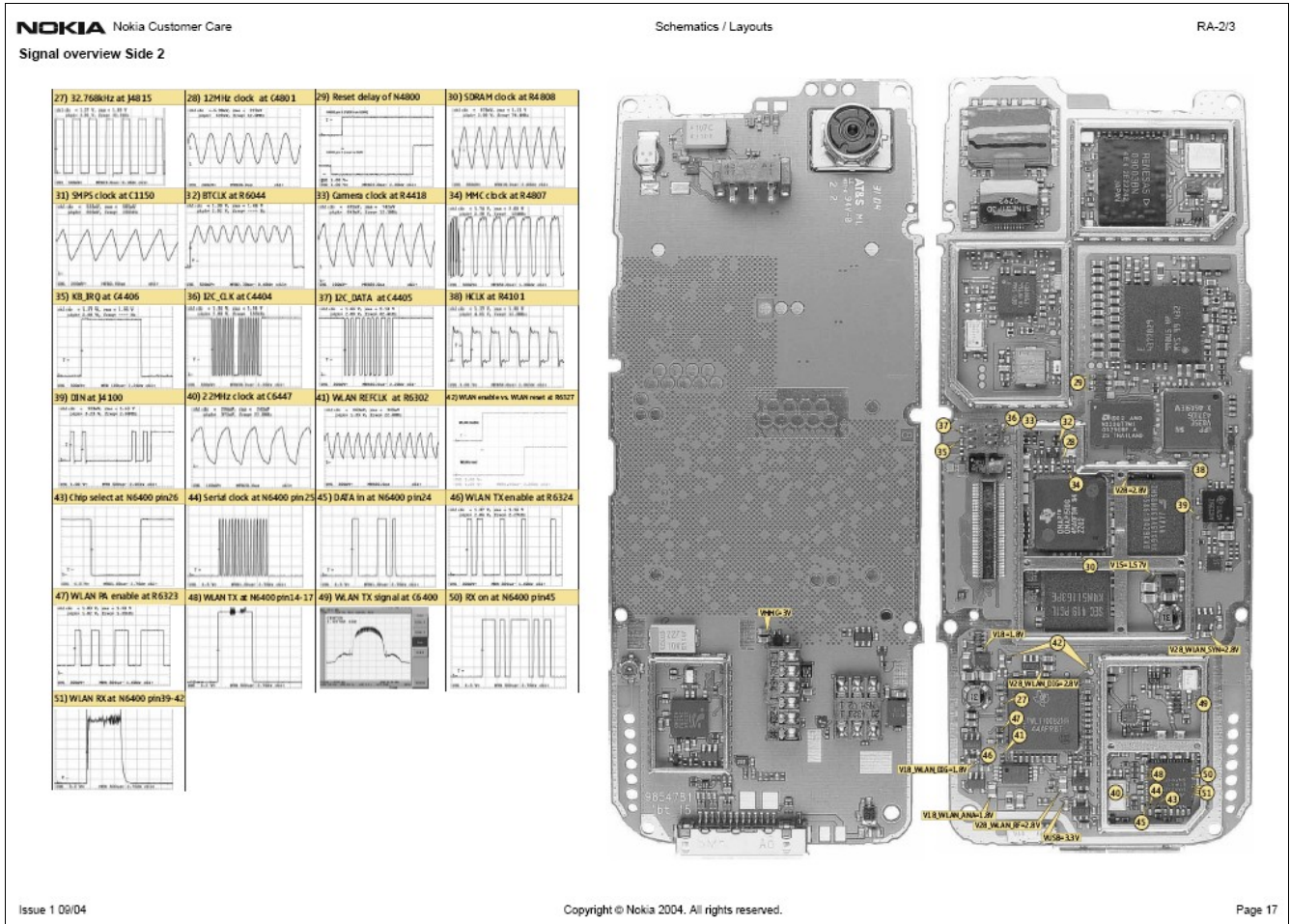
RF-part

## Schematic 15



## Signal overview Side 1

## Schematic 16



## Signal Overview Side 2

### Element Finder Bottom Side





## Schematic 18

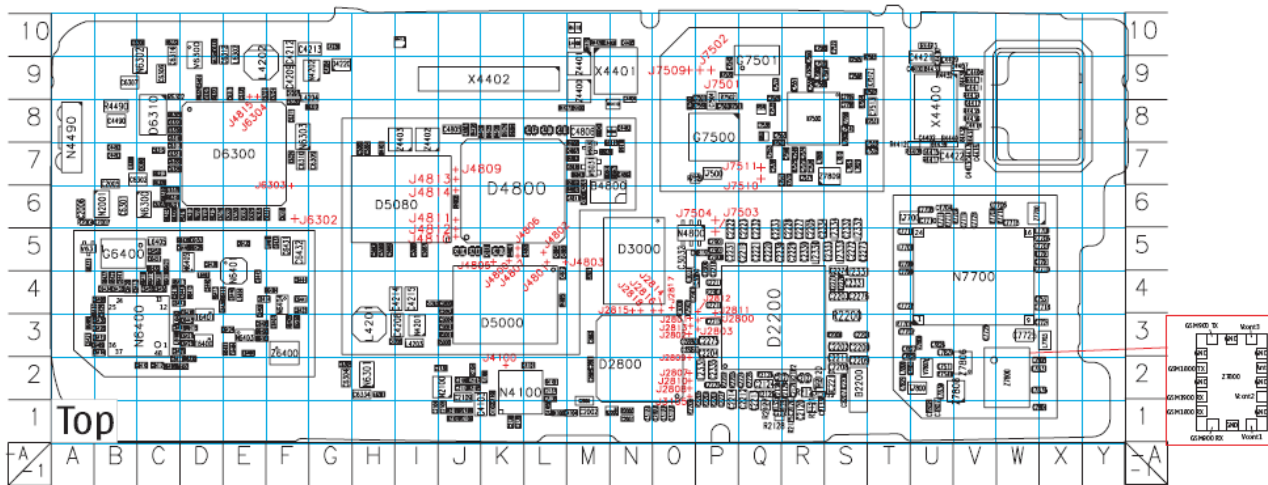
NOKIA Nokia Customer Care

Schematics / Layouts

RA-2/3

## Component finder Top side

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
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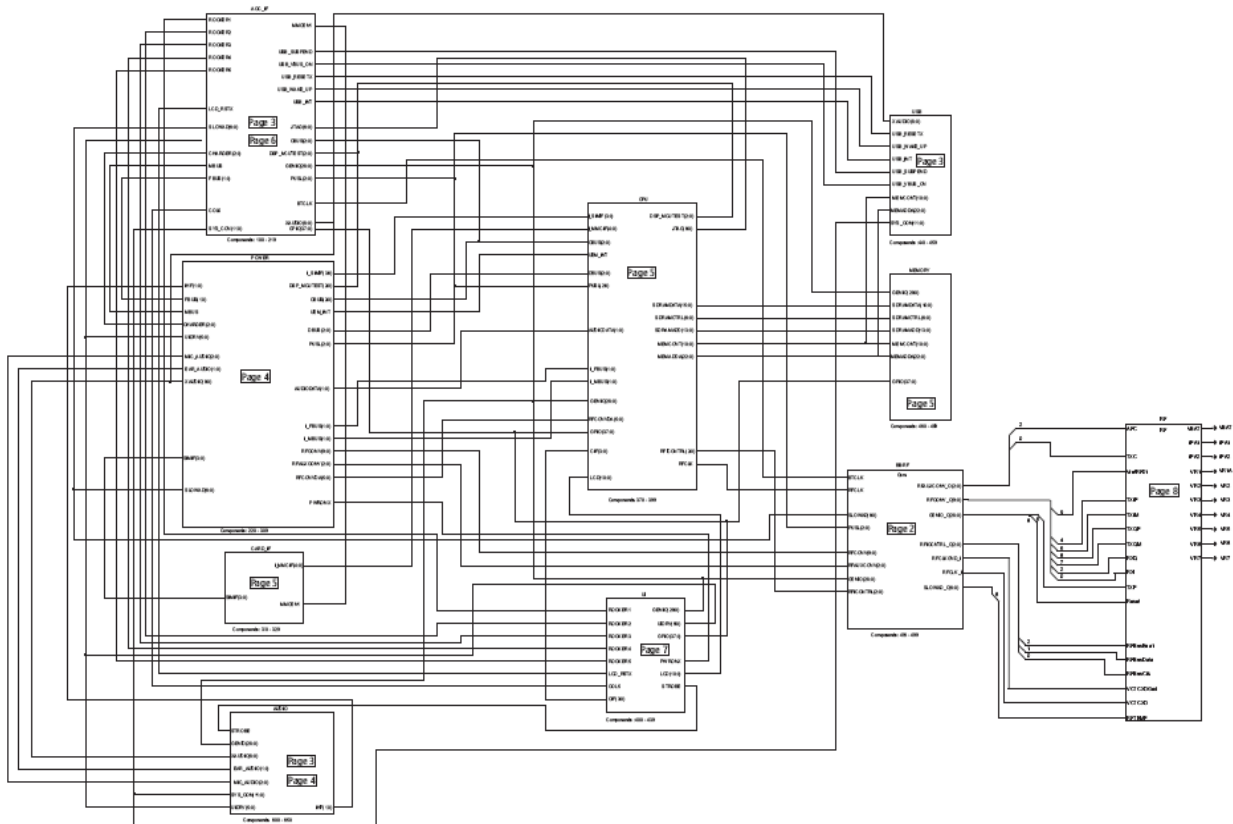
## Component Finder Top Side

## Appendix "B"

Detailed Schematic Diagrams Reproduced from:

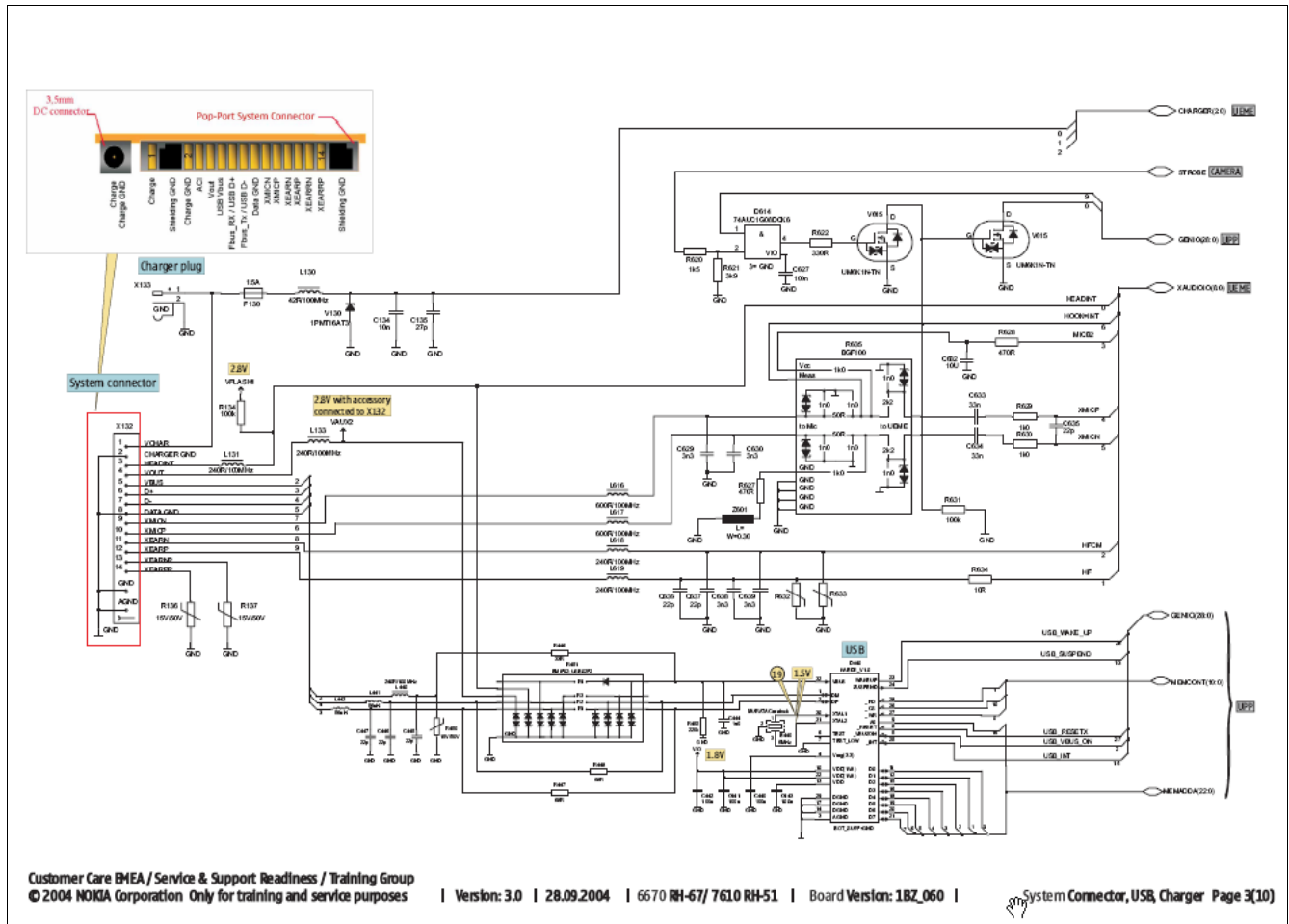
*Service Schematics 6670/7610 Version 3.0, Nokia Corporation (2004)*

### Schematic 1



## Baseband Connection Overview

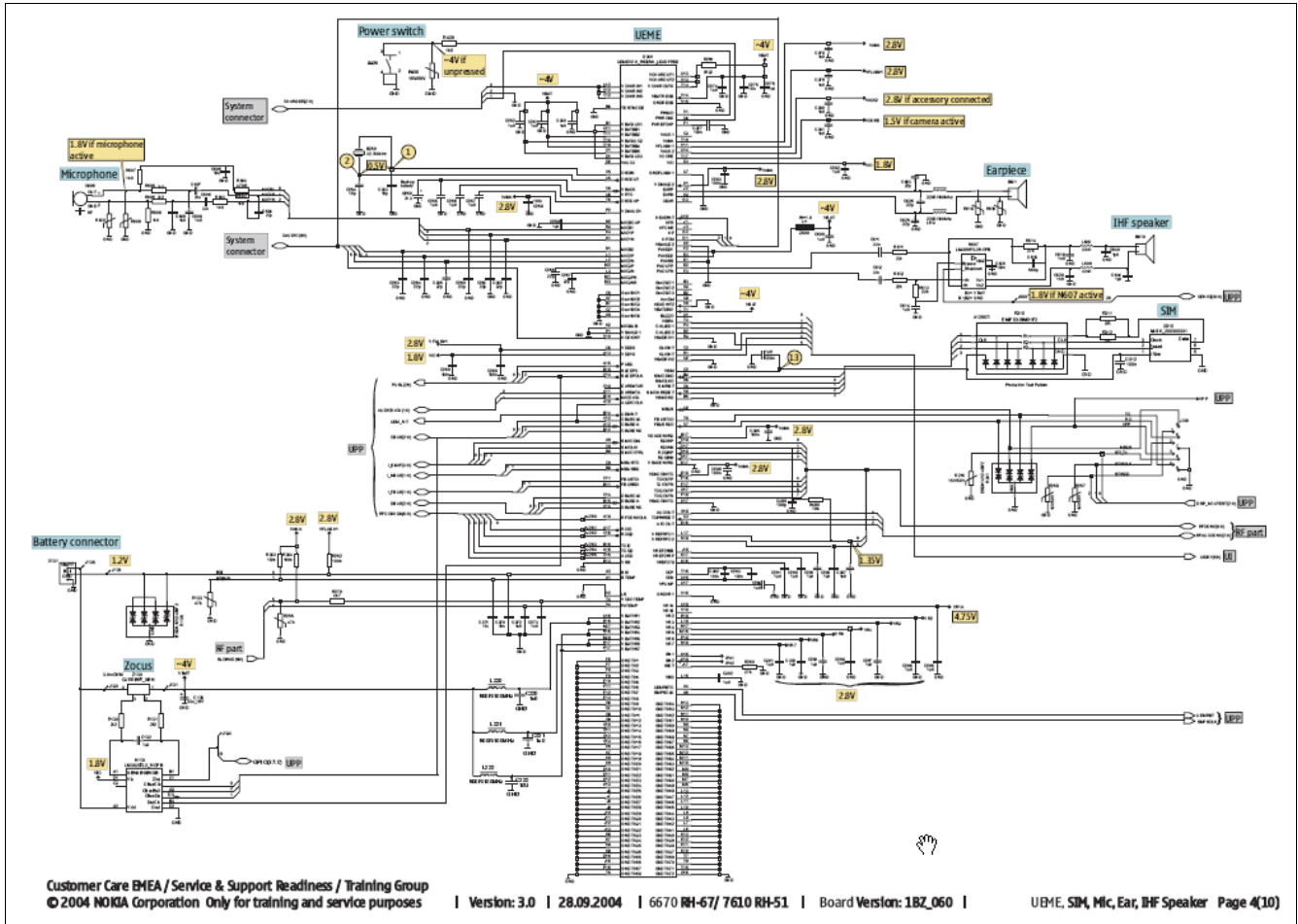
Schematic 2



System Connector, USB, Charger

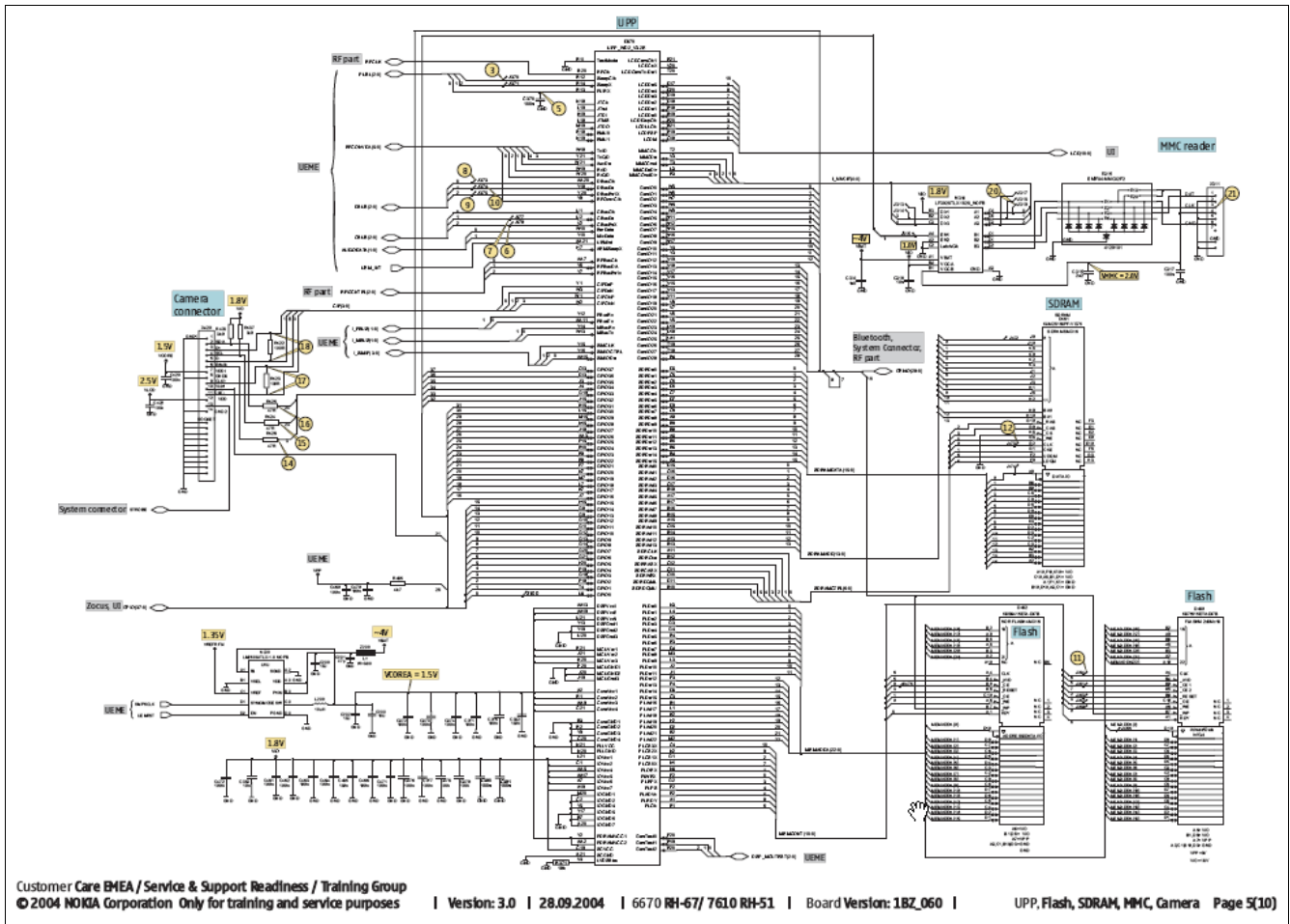


Schematic 3



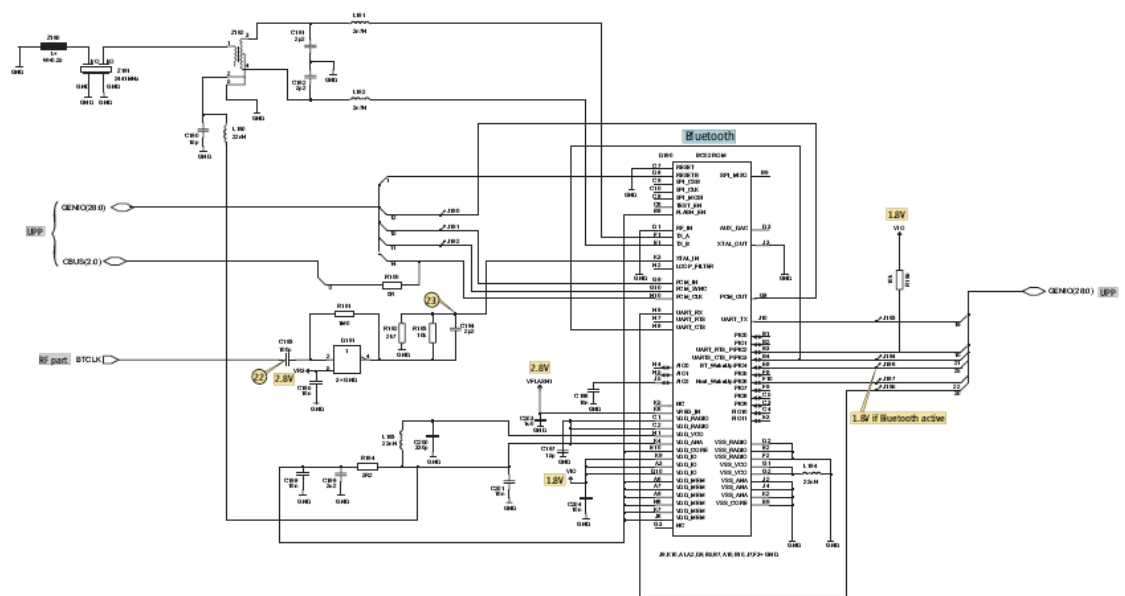
UEMK, SIM, Zocus, Mic, Ear, IHF Speaker

### Schematic 4



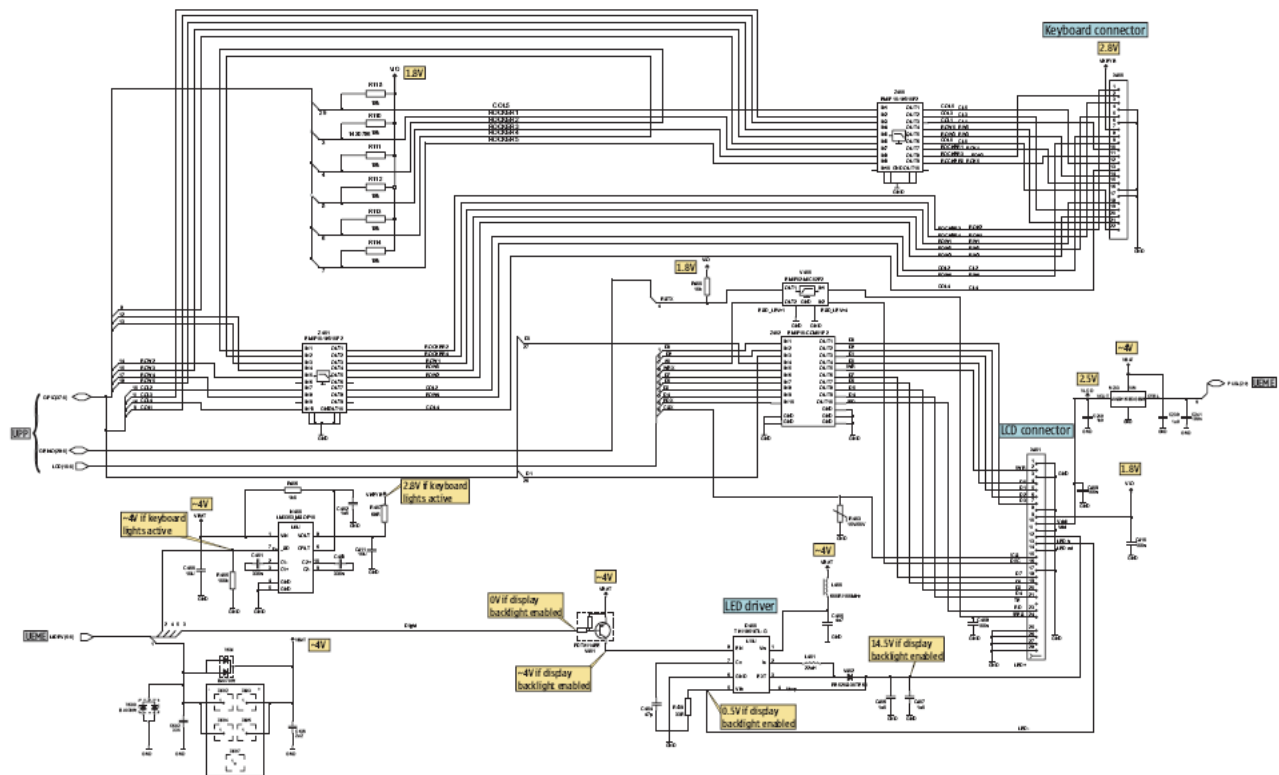
UPP, Flash, MMC, Camera

### Schematic 5



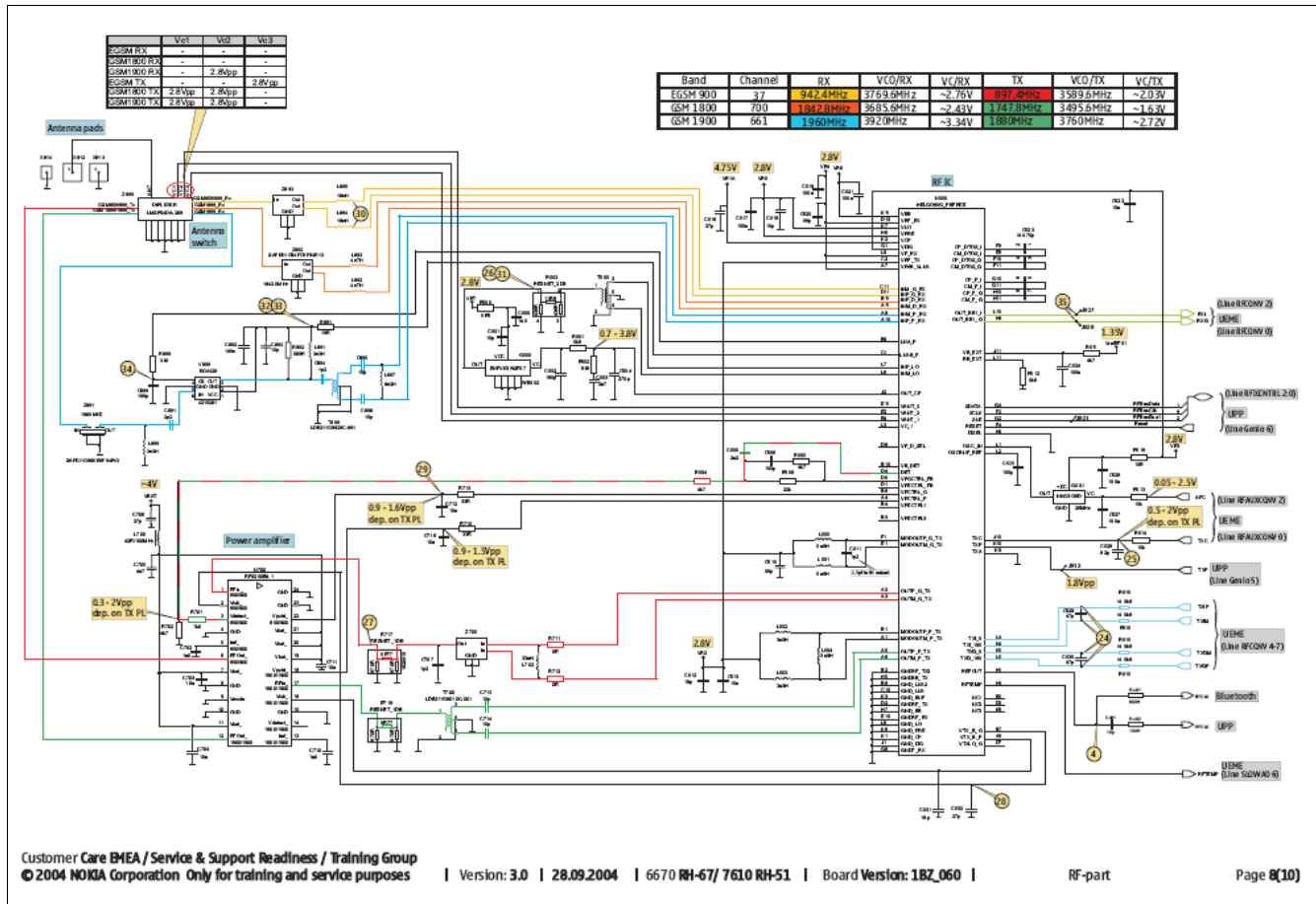
## Bluetooth

### Schematic 6



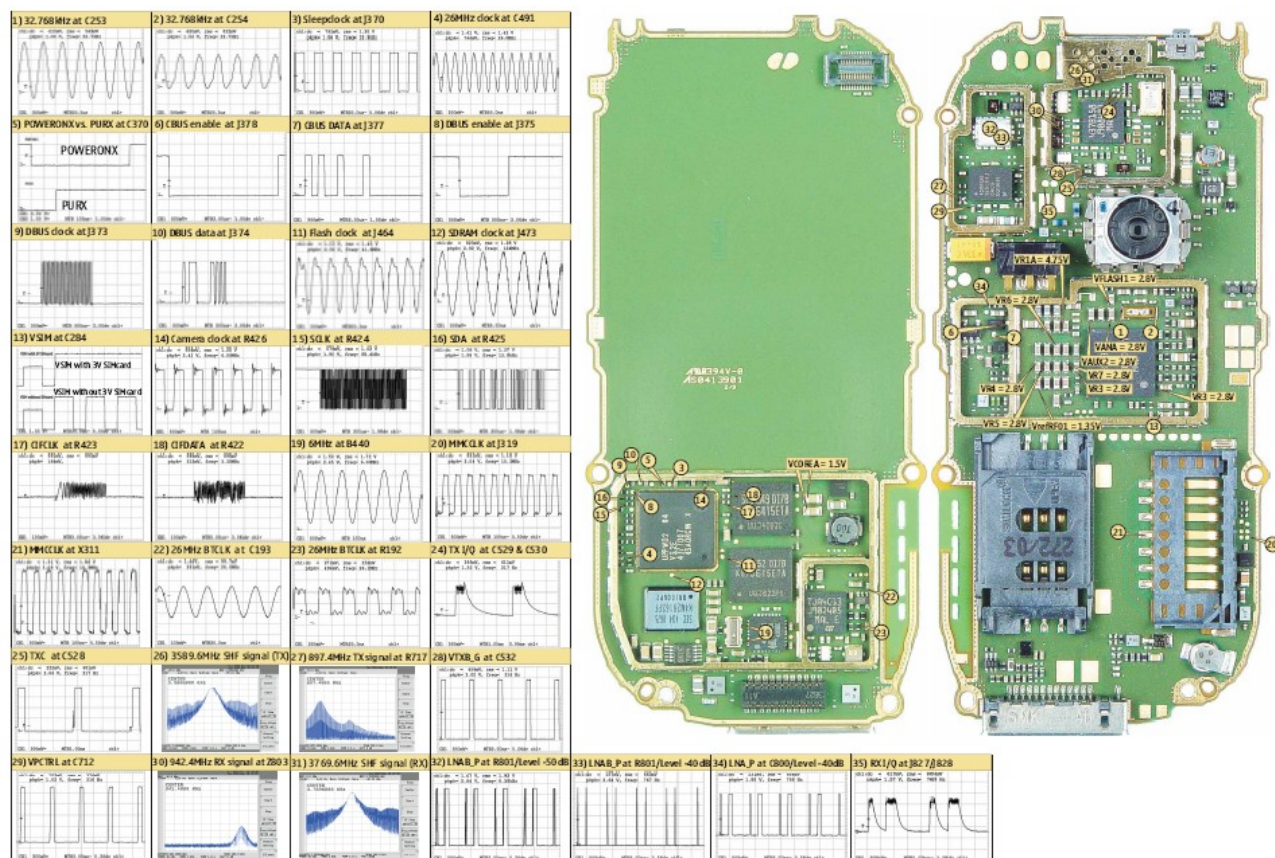
UI, Vibra

### Schematic 7



RF Part

## Schematic 8



## Signal Overview



Customer Care BMEA / Service & Support Readiness / Training Group  
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